United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Virginia Polytechnic
Institute and State
University

Soil Survey of Appomattox County, Virginia

How To Use This Soil Survey

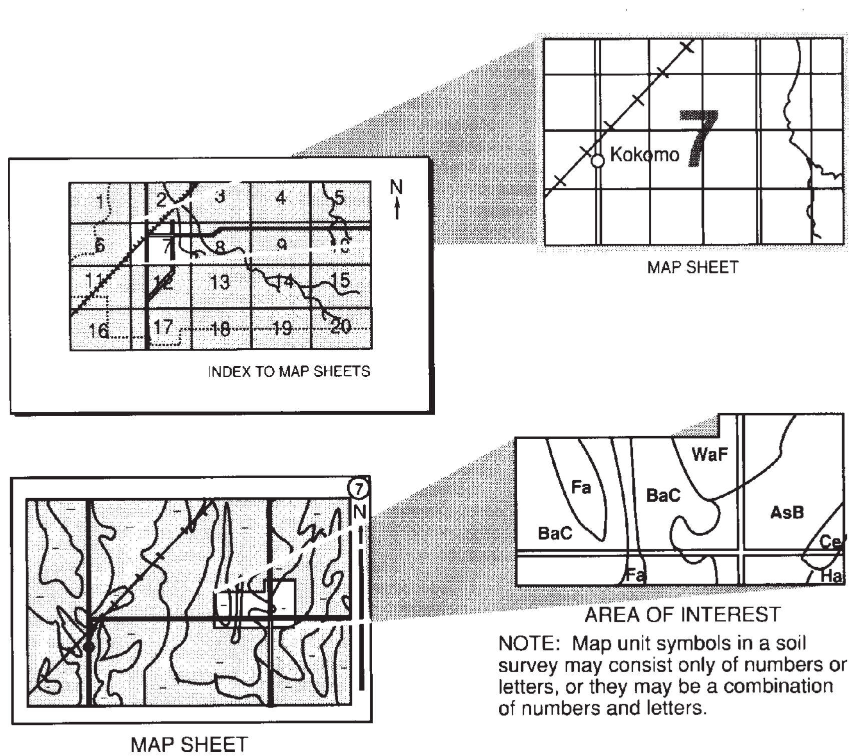
Detailed Soil Maps

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 turn to that sheet.

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

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



National Cooperative Soil Survey

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

Major fieldwork for this soil survey was completed in 1990. Soil names and descriptions were approved in 1993. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1993. The most current official data are available at http://websoilsurvey.nrcs.usda.gov/app/.

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

Historic Appomattox Courthouse in an area of Cullen clay loam, 2 to 7 percent slopes.

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 2008

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, 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.

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 soil 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
Natural Resources Conservation Service

Soil Survey of Appomattox County, Virginia

By William F. Kitchel, Virginia Polytechnic Institute and State University

Fieldwork by William F. Kitchel and Thomas Saxton, III, Virginia Polytechnic Institute and State University

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

APPOMATTOX COUNTY is in the central Piedmont region of Virginia (fig. 1). It is bounded on the north by the James River, on the west by Campbell County, on the south by Charlotte County, and on the east by Prince Edward and Buckingham Counties. The survey area is 215,200 acres.

Commercial forestland makes up about three-fourths of the area. Less than 5 percent of the county is used for urban development, and the rest is used primarily for agriculture.

This soil survey updates the survey of Appomattox County published in 1904 (Cain and Bennett, 1904). It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the Survey Area

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

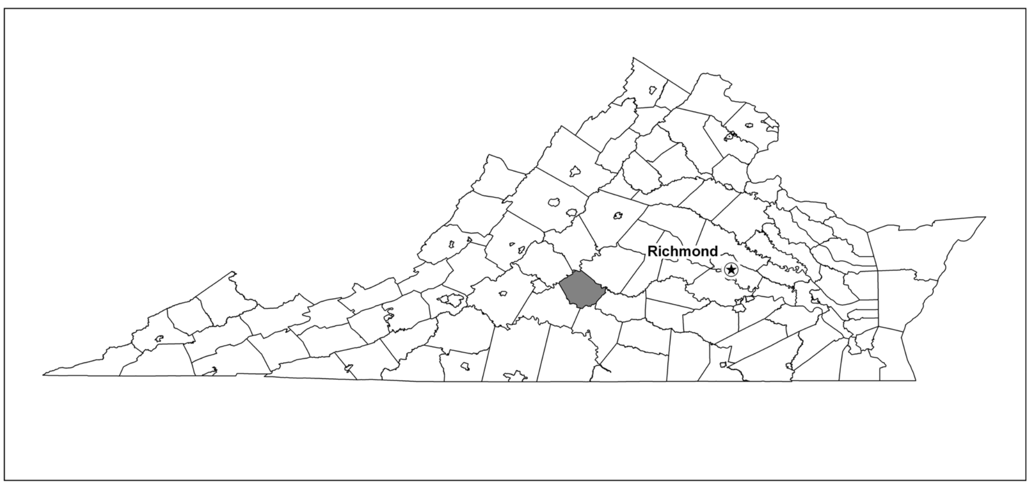


Figure 1.—Location of Appomattox County in Virginia.

History

In 1845, Appomattox County was formed from portions of Buckingham, Campbell, Charlotte, and Prince Edward Counties. Both Appomattox County and the Appomattox River were named after the Appamatuck Indians, an Algonquin tribe under Powhatan's rule during the 1600's. Pioneer settlement expanded into the survey area during the early 1700's. In 1819, Alexander Patteson established the Clover Hill Tavern, which was a way station for his stagecoach line that ran between Lynchburg and Richmond. When the county was formed, a courthouse was built across the street from the Clover Hill Tavern and the town was named Appomattox Court House.

Farming was the primary industry during the early settlement of Appomattox County, and tobacco was the major crop for many years. During the early period of settlement, tobacco was carried to Richmond by batteaux on the James River or by road in areas distant from the river. In 1852, the railroad was built through the county and a depot was established just west of the courthouse. The railroad shifted the focus of the county away from the courthouse, and the present-day town of Appomattox grew up around the railroad depot.

During the War Between the States, Appomattox County was generally spared the devastation of the war, but it made history by becoming the site of General Robert E. Lee's surrender to General Ulysses S. Grant.

The first major industry in Appomattox County was the Pamplin Smoking Pipe Manufacturing Company, which was established in 1878. This factory manufactured clay pipes for more than 70 years until it closed in 1951. Although the apparel and furniture industries have become increasingly important in the county, a large number of residents still make a living from agriculture.

Geology

More than 2 billion years ago, thousands of feet of silt and clay sediments of a deep ocean basin were being "pressure cooked"—recrystallized under their own weight. This early ocean basin closed as huge plates of the earth's crust migrated, bringing the early continents of Europe and Africa toward North America. Great slabs of "pressure cooked," or metamorphic, rock were forced onto the edges of the continents. Several slices of this rock, some that had volcanic ash and lava flows and some that had calcium carbonate and carbon traces of early life, slid over each other and produced the Lynchburg Group of rocks that is located in the western part of the survey area. The Lynchburg Group consists of greenstones, marbles, graphite schist, gneisses, and quartzites.

Much more recently, quartzite (metamorphosed beach sand) deflected the course of the present-day James River near Chestnut Mountain. Another slice of metamorphic rock, long since isolated by erosion, became stranded between present-day Spout Spring and Oakville towards Appomattox. This is known as the Smith River allochthon, which contains mica schist that bears garnets and fragments of fairy stones in some areas.

Eastward from present-day Appomattox, another mix of metamorphosed sediments and volcanic materials that ranges from quartzite to hornblende gneiss was deposited. This sequence of material was formed by a volcanic island-arc in the young ocean. As time passed, the continents migrated again, eventually reaching their current positions. Bedrock in the survey area thinned and broke, which left a depressed trough stretching from near present-day Danville to near Appomattox. This trough became filled with boulders, gravel, sands, silts, and clays, which are now consolidated into sedimentary rock and make up the Danville Triassic Basin. The formation of this basin occurred almost 2 million years ago. Although metamorphism has destroyed fossils in the older rocks, coal traces and dinosaur foot prints may be found in this basin. The fracturing of bedrock occurred at the end of the period of thinning, and molten rock rapidly filled the fractures. Now exposed near Wreck Island Creek and Bent Creek, these filled fractures are recognized as strings of heavy, dark diabase boulders.

Agriculture

In Appomattox County, approximately 3,500 acres are used for cultivated crops and 33,100 acres are used for pasture and hay. The number of farms in cultivated cropland has been decreasing, but the size of the remaining farms has been increasing during the past 10 years. The major crops grown in the county are corn, corn silage, small grain, and tobacco. A small acreage is used for soybeans. A few small producers have small areas of U-pick strawberries and various other crops.

Most areas of pasture consist of tall fescue or tall fescue and ladino clover. Most of the hayland consists of orchardgrass or tall fescue. The acreage of alfalfa has increased significantly in the past several years.

Raising beef cattle, primarily in cow-calf operations, is the major livestock enterprise in the county. The production of dairy cattle is the second major livestock enterprise. A small number of hogs, horses, and sheep also are raised. The number of horses in the county is increasing.

Approximately three-fourths of Appomattox County is woodland. Much of this woodland consists of hardwoods or mixed hardwoods and pine. Much of the acreage of harvested woodland has been replanted to loblolly pine. Most of the timber is harvested for pulpwood, but some of the larger trees are sawed into lumber or used for veneer.

Industry

Most of the major manufacturing and business establishments in Appomattox County are located in or adjacent to the town of Appomattox. Some of the major industries in the town produce clothing and furniture. The town has several shopping centers. Small businesses scattered throughout Appomattox County produce clothing, crushed stone, lime, and other products. The county also has a few small general stores and sawmills. Some residents of Appomattox County work in the city of Lynchburg or in adjacent counties.

Transportation Facilities

U.S. Highway 460 runs east and west through Appomattox County and connects Appomattox with Richmond and Lynchburg. State Highway 24 runs northeast and intersects U.S. Highway 60 at Mount Rush in Buckingham County. U.S. Highway 60 connects Amherst to the west and Richmond to the east. State Highway 26 runs north to Bent Creek where it intersects U.S. Highway 60. Several major highways converge in Lynchburg and they are easily accessible from Appomattox. They include U.S. Highways 29, 460, and 501. U.S. Highway 29 is a multilane highway that runs from Washington, D.C., through Lynchburg, and southward to Danville and cities of the North Carolina Piedmont. U.S. Highway 460 runs east and west from Norfolk to St. Louis. It connects Appomattox County with the Hampton Roads area to the east and Roanoke to the west.

Freight service for the county is handled by several interstate carriers. Passenger bus service between Richmond and Lynchburg is scheduled daily. The nearest commercial airport is at Lynchburg, located 25 miles from Appomattox. Complete passenger, air express, and air freight services are available. One railroad crosses the county and runs east and west. It is a direct line to the ports of Hampton Roads and to Roanoke and points west. Coal from southwestern Virginia and West Virginia is the principle product shipped.

Water Resources

Good-quality well water is available throughout Appomattox County. The survey area is underlain mostly by metamorphosed and igneous rocks that trend across the county in a northeasterly direction. The zone of unconsolidated soil, alluvium, and weathered rock is typically 40 to 60 feet thick. Ground water is in fractures and thin weathered zones which occur in the bedrock. The water table is generally at a depth of about 30 to 40 feet in the unconsolidated material. The dug wells and springs that obtain water from the zone of unconsolidated material generally have only small yields during periods of normal precipitation and may become dry if used heavily during periods of drought. In many areas, because of this and the increased consumption of water, water supplies from shallow sources are no longer used and wells have been drilled that generally are more productive, more sanitary, and not seriously affected by drought.

Most existing wells are located, for convenience, near homes and roads in high areas. About 75 percent of these wells are less than 150 feet deep, and 90 percent of them yield less than 15 gallons per minute. The average yield of wells probably could be increased by drilling in more favorable locations, such as valleys, draws, or upland flat areas. The ground water from most sources is soft and does not have excessive mineralization. Locally, the water may be hard or contain excessive amounts of iron, which may be the result of corrosion of iron in the water system. Ground water from shallow depths, such as that obtained from most springs and dug wells, is sometimes less mineralized than water from greater depths. The towns of Appomattox and Pamplin currently are the only municipalities providing water services. The water is provided by a series of dug wells.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Appomattox in the period 1961 to 1989. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 35.3 degrees F and the average daily minimum temperature is 24.8 degrees. The lowest temperature on record, which occurred on December 26, 1983, was -8.0 degrees. In summer, the average temperature is 73.5 degrees and the average daily maximum temperature is 84.7 degrees. The highest temperature, which occurred on July 22, 1977, was 103 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 average annual total precipitation is about 42.2 inches. Of this, 21.3 inches, or 51 percent, usually 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 15.7 inches. The heaviest 1-day rainfall during the period of record was 8.4 inches on September 8, 1987.

The average seasonal snowfall is 17 inches. The heaviest 1-day snowfall on record was 14 inches.

How This Survey Was Made

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

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

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

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

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

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

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

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

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.

Soils of one 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, Cullen clay loam, 2 to 7 percent slopes, is a phase of the Cullen series.

Some map units in this survey 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. Appomattox-Cullen complex, 7 to 15 percent slopes, 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.

1A—Altavista loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

Altavista and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish brown loam

Subsoil:
6 to 25 inches—yellowish brown clay loam
25 to 40 inches—yellowish brown clay loam; light gray iron depletions and yellowish red masses of oxidized iron

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

Minor Components

Dissimilar components:
- Batteau soils, which are moderately well drained and in the more frequently flooded positions on flood plains
- Chewacla soils, which are somewhat poorly drained and in the more frequently flooded positions on flood plains
- Riverview soils, which are well drained and on flood plains
- State soils, which are well drained and in landscape positions similar to those of the Altavista soil
- Wehadkee soils, which are poorly drained and in the more frequently flooded positions on flood plains
- Wingina soils, which are well drained and on flood plains
- Yogaville soils, which are poorly drained and in the more frequently flooded positions on flood plains

Similar components:
- Soils that have a clayey subsoil
- Soils that have a gravelly substratum

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: Moderately well drained
Depth to seasonal water saturation: About 1.5 to 2.5 feet
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay; moderately suited to alfalfa hay; not suited to tobacco
- Flooding may damage crops.

Pasture
Suitability: Well suited to pasture
- Flooding may damage pastures.

Woodland
Suitability: Well suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should 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 of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2w

Virginia soil management group: B
Hydric soil: No

2B—Appomattox-Cullen complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Appomattox and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Cullen and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Appomattox
Surface layer:
0 to 6 inches—brown gravelly sandy loam

Subsoil:
6 to 9 inches—red clay loam
9 to 36 inches—red clay
36 to 49 inches—red clay; dark red and yellowish brown masses of oxidized iron and very pale brown iron depletions
49 to 80 inches—red clay; dark red and yellowish brown masses of oxidized iron and light gray iron depletions

Cullen
Surface layer:
0 to 9 inches—reddish brown clay loam

Subsoil:
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 52 inches—red clay; common strong brown mottles
52 to 65 inches—red clay; many strong brown mottles

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Mattaponi soils, which are moderately well drained, have a yellowish brown capping of alluvium or colluvium, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Appomattox and Cullen soils

- Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils

Soil Properties and Qualities

Available water capacity: Appomattox—low (about 5.9 inches); Cullen—moderate (about 7.0 inches)
Slowest saturated hydraulic conductivity: Appomattox—moderately high (about 0.20 in/hr); Cullen—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: Appomattox—about 3.0 to 3.3 feet; Cullen—more than 6.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Appomattox—colluvium and/or alluvium over residuum weathered from igneous and metamorphic rock (fig. 2); Cullen—residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

Figure 2.—Appomattox soil in an area of Appomattox-Cullen complex, 7 to 15 percent slopes. A line of rock fragments, consisting of gravel and cobbles, is at the interface of colluvium and residuum saprolite.

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 pollute the water table.
- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: Appomattox—2e; Cullen—3e

Virginia soil management group: Appomattox—O; Cullen—N
Hydric soil: No

2C—Appomattox-Cullen complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Appomattox and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Cullen and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Appomattox
Surface layer:
0 to 6 inches—brown gravelly sandy loam

Subsoil:
6 to 9 inches—red clay loam
9 to 36 inches—red clay
36 to 49 inches—red clay; dark red and yellowish brown masses of oxidized iron and very pale brown iron depletions
49 to 80 inches—red clay; dark red and yellowish brown masses of oxidized iron and light gray iron depletions

Cullen
Surface layer:
0 to 9 inches—reddish brown clay loam

Subsoil:
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 52 inches—red clay; common strong brown mottles
52 to 65 inches—red clay; many strong brown mottles

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Mattaponi soils, which are moderately well drained, have a yellowish brown capping of alluvium or colluvium, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Appomattox and Cullen soils

- Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Appomattox and Cullen soils

Soil Properties and Qualities

Available water capacity: Appomattox—low (about 5.9 inches); Cullen—moderate (about 7.0 inches)
Slowest saturated hydraulic conductivity: Appomattox—moderately high (about 0.20 in/hr); Cullen—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: Appomattox—about 3.0 to 3.3 feet; Cullen—more than 6.0 feet
Water table kind: Apparent
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Appomattox—colluvium and/or alluvium over residuum weathered from igneous and metamorphic rock (fig. 2) ; Cullen—residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

- The low strength of the soil 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 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.
- Slow water movement 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
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Appomattox—3e; Cullen—4e
Virginia soil management group: Appomattox—O; Cullen—N
Hydric soil: No

3A—Batteau loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 13 inches—dark brown loam

Subsoil:
13 to 32 inches—dark yellowish brown silt loam; yellowish brown masses of oxidized iron and gray iron depletions
32 to 60 inches—yellowish brown silt loam; gray iron depletions
60 to 72 inches—gray sandy loam; yellowish red masses of oxidized iron

Minor Components

Dissimilar components:
- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions

- Yogaville soils, which are poorly drained and in concave backwater positions

Similar components:
- Wingina soils, which are well drained and in landscape positions similar to those of the Batteau soil

Soil Properties and Qualities

Available water capacity: Very high (about 13.0 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: Moderately well drained
Depth to seasonal water saturation: About 1.0 foot to 2.5 feet
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

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

Pasture
Suitability: Well suited to pasture
- 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 of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 low strength of the soil may cause structural damage to local roads and streets.

Interpretive Groups

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

4B—Beckham clay loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 7 inches—very dusky red clay loam; iron-manganese concretions

Subsoil:
7 to 72 inches—dark reddish brown clay; iron-manganese concretions

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on backslopes

Similar components:
- Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Soils that have 15 to 25 percent gravel in the surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium

Surface fragments: None
Parent material: Residuum weathered from marble

Use and Management Considerations

Cropland
Suitability: Well suited to corn, soybeans, wheat, and grass-legume hay; moderately suited to alfalfa hay
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Clods may form if the soil is tilled when wet.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

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

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

Septic tank absorption fields
- These soils are well suited to septic tank absorption fields.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 3e
Virginia soil management group: O
Hydric soil: No

4C—Beckham clay loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 7 inches—very dusky red clay loam; iron-manganese concretions

Subsoil:
7 to 72 inches—dark reddish brown clay; iron-manganese concretions

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on backslopes

Similar components:
- Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Soils that have 15 to 25 percent gravel in the surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from marble

Use and Management Considerations

Cropland
Suitability: Well suited to wheat and grass-legume hay; moderately suited to alfalfa hay, corn, and soybeans
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Clods may form if the soil is tilled when wet.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture
Suitability: Well suited to pasture

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

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

Interpretive Groups

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

4D—Beckham clay loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 7 inches—very dusky red clay loam; iron-manganese concretions

Subsoil:
7 to 72 inches—dark reddish brown clay; iron-manganese concretions

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions

- Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are in landscape positions similar to those of the Beckham soil

Similar components:
- Cecil soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Cullen soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions
- Mayodan soils, which are well drained, have less clay in the substratum than the Beckham soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from marble

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

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

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

Interpretive Groups

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

5B—Cecil sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

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

Subsoil:
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam; many yellowish red mottles

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cecil soil
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
- Louisburg soils, which are well drained to excessively drained, are moderately deep to bedrock, and are on backslopes
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Cecil soil

Similar components:
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Cecil soil
- Pacolet soils, which are well drained, have a solum that is thinner than that of the Cecil soil, and are in similar landscape positions
- Wedowee soils, which are well drained, have a solum that is thinner than that of the Cecil soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland

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

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

Pasture

Suitability: Well suited to pasture (fig. 3)

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

Woodland

Suitability: Well suited to northern red oak; moderately suited to loblolly pine and southern red oak

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

Figure 3.—Pasture in an area of Cecil sandy loam, 2 to 7 percent slopes.

- The slope may restrict the use of some mechanical planting equipment.
- The soil is well suited to haul roads and log landings.
- The soil is well suited to equipment operations.

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

Septic tank absorption fields
- These soils are well suited to septic tank absorption fields.

Local roads and streets
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

6A—Chewacla loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Linear treads; some areas are concave in shape

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 3 inches—dark brown loam

Subsoil:
3 to 13 inches—dark yellowish brown sandy loam
13 to 24 inches—brown loam; grayish brown iron depletions
24 to 45 inches—grayish brown sandy loam; dark reddish brown and black iron-manganese masses

Substratum:
45 to 65 inches—grayish brown very gravelly sandy loam; dark reddish brown and black iron-manganese masses

Minor Components

Dissimilar components:
- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
- Riverview soils, which are well drained and in the higher, convex positions
- State soils, which are well drained and in the higher, less flood-prone positions

Similar components:
- Wehadkee soils, which are poorly drained and in landscape positions similar to those of the Chewacla soil
- Soils that have 15 to 25 percent gravel in the surface layer

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: Somewhat poorly drained
Depth to seasonal water saturation: About 0.5 foot to 1.5 feet
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Well suited to pasture
- Flooding may damage pastures.
- 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; 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 of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 6w

Virginia soil management group: I
Hydric soil: No

7B—Cullen clay loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Cullen
Surface layer:
0 to 9 inches—reddish brown clay loam

Subsoil:
9 to 29 inches—dark red clay
29 to 42 inches—red clay
42 to 52 inches—red clay; common strong brown mottles
52 to 65 inches—red clay; many strong brown mottles

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cullen soil
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Cullen soil
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Cullen soil

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Cullen soil
- Mecklenburg soils, which are well drained, have higher base saturation than the Cullen soil, and are in similar landscape positions
- Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Cullen soil
- Soils that have 15 to 25 percent gravel in the surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 7.0 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium

Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland
Suitability: Moderately suited to corn, wheat, grass-legume hay, and alfalfa hay; poorly suited to soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- Clods may form if the soil is tilled when wet.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

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 soil is well suited to septic tank absorption fields.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 3e
Virginia soil management group: N
Hydric soil: No

8B—Iredell loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 5 inches—dark yellowish brown loam

Subsoil:
5 to 23 inches—yellowish brown clay

Substratum:
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam

Soft bedrock:
43 to 63 inches—dark olive gray, yellowish brown, and very pale brown schist bedrock

Hard bedrock:
63 to 73 inches—schist bedrock

Minor Components

Dissimilar components:
- Cullen soils, which are well drained and in landscape positions similar to those of the Iredell soil
- Louisburg soils, which are well drained to excessively drained and are in landscape positions similar to those of the Iredell soil
- Mecklenburg soils, which are well drained and in landscape positions similar to those of the Iredell soil
- Poindexter soils, which are well drained and on backslopes
- Wedowee soils, which are well drained and in landscape positions similar to those of the Iredell soil

Similar components:
- Soils that are moderately deep to weathered bedrock and are in landscape positions similar to those of the Iredell soil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.9 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 1.0 foot to 2.0 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Very high
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

Woodland
Suitability: Poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

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

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- Slow water movement 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.
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

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

8C—Iredell loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 5 inches—dark yellowish brown loam

Subsoil:
5 to 23 inches—yellowish brown clay

Substratum:
23 to 43 inches—yellowish brown, very pale brown, and dark olive gray silt loam

Soft bedrock:
43 to 63 inches—dark olive gray, yellowish brown, and very pale brown schist bedrock

Hard bedrock:
63 to 73 inches—schist bedrock

Minor Components

Dissimilar components:
- Cullen soils, which are well drained and in landscape positions similar to those of the Iredell soil
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Iredell soil
- Mecklenburg soils, which are well drained and in landscape positions similar to those of the Iredell soil
- Poindexter soils, which are well drained and on backslopes
- Wedowee soils, which are well drained and in landscape positions similar to those of the Iredell soil

Similar components:
- Soils that are moderately deep to weathered bedrock and in landscape positions similar to those of the Iredell soil

Soil Properties and Qualities

Available water capacity: Moderate (about 6.9 inches)
Slowest saturated hydraulic conductivity: Low (about 0.00 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Moderately well drained
Depth to seasonal water saturation: About 1.0 foot to 2.0 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Very high
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The seasonal high water table restricts equipment operation, decreases the viability of crops, and interferes with the planting and harvesting of crops.

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

Woodland
Suitability: Poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- Soil wetness may limit the use of log trucks.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

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

Septic tank absorption fields
- The seasonal high water table greatly limits the absorption and proper treatment of the effluent from conventional septic systems.
- Slow water movement 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.
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

9E—Louisburg gravelly coarse sandy loam, 25 to 50 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Louisburg and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

Dissimilar components:
- Cecil soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Louisburg soil
- Manteo soils, which are shallow to bedrock and in landscape positions similar to those of the Louisburg soil
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Louisburg soil
- Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
- Pacolet soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
- Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Louisburg soil
- Soils that have stones on the surface and are in landscape positions similar to those of the Louisburg soil
- Rock outcrop in landscape positions similar to those of the Louisburg soil

Similar components:
- Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Louisburg soil
- Poindexter soils, which are well drained, have less clay in the subsoil than the Louisburg soil, and are in similar landscape positions

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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Unsuited to pasture

Woodland
Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, 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.
- The slope makes the use of equipment for planting and seeding impractical.
- 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 need for maintenance 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
- Slow water movement 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 proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 7e

Virginia soil management group: FF
Hydric soil: No

10E—Manteo-Rock outcrop complex, 7 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Manteo and similar soils: Typically 55 percent, ranging from about 50 to 60 percent
Rock outcrop: Typically 30 percent, ranging from about 25 to 35 percent

Typical Profile

Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Rock outcrop

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

Minor Components

Dissimilar components:
- Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Nason soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Pacolet soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Tatum soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Turbeville soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop

Similar components:
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil and Rock outcrop

Soil Properties and Qualities

Manteo

Available water capacity: Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Manteo—high (about 1.98 in/hr)
Depth class: Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Manteo—somewhat excessively drained
Depth to seasonal water saturation: Manteo—more than 6.0 feet
Flooding hazard: Manteo—none
Ponding hazard: Manteo—none
Shrink-swell potential: Manteo—low
Runoff class: Manteo—very high
Surface fragments: Manteo—none
Parent material: Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland

Suitability: Unsuited to cropland

Pasture

Suitability: Unsuited to pasture

Woodland

Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- The use of equipment for preparing sites for planting and seeding is restricted because of the slope.
- The slope makes the use of mechanical planting equipment impractical.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites

- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.
- Rock removal may be needed because of Rock outcrops.

Septic tank absorption fields

- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.
- Special design of septic tank absorption fields is needed because of Rock outcrops.

Local roads and streets

- Because of the limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Designing local roads and streets is difficult because of the slope.
- 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: Manteo—7s; Rock outcrop—8s
Virginia soil management group: Manteo—JJ; Rock outcrop—none assigned
Hydric soil: No

11E—Manteo very channery loam, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Manteo and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
- Mecklenburg soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Nason soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Pacolet soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Tatum soils, which are well drained, deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Turbeville soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Manteo soil

Similar components:
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Manteo soil

Soil Properties and Qualities

Available water capacity: Very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: High (about 1.98 in/hr)

Depth class: Shallow (10 to 20 inches)
Depth to root-restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Unsuited to pasture

Woodland
Suitability: Moderately suited to northern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, especially in areas on the steeper slopes. A timber harvest plan should focus on the proper location of haul roads and skid trails, and careful attention should be given to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- The slope makes the use of equipment for planting and seeding impractical.
- The slope makes the use of mechanical planting equipment impractical.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

Building sites
- The slope influences the use of machinery and the amount of excavation required.
- Because of the limited depth to bedrock, the ease of excavation is greatly 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 proper installation of 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 limited depth to bedrock, the ease of excavation is reduced and the difficulty of constructing roads is increased.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

12B—Mattaponi-Cecil complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes; some areas in saddles
Position on the landform: Interfluves

Map Unit Composition

Mattaponi and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Cecil and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

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

Subsoil:
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay; red iron-manganese masses
45 to 65 inches—strong brown clay; pinkish gray iron depletions

Cecil
Surface layer:
0 to 9 inches—strong brown sandy loam

Subsoil:
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam; many yellowish red mottles

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mattaponi and Cecil soils

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium that has redder colors, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Pacolet soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Wedowee soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils

Soil Properties and Qualities

Available water capacity: Mattaponi—moderate (about 6.5 inches); Cecil—moderate (about 6.7 inches)
Slowest saturated hydraulic conductivity: Mattaponi—moderately high (about 0.20 in/hr); Cecil—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: Mattaponi—moderately well drained; Cecil—well drained
Depth to seasonal water saturation: Mattaponi—about 3.0 to 6.0 feet; Cecil—more than 6.0 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mattaponi—moderate; Cecil—low
Runoff class: Medium
Surface fragments: None
Parent material: Mattaponi—alluvium and/or colluvium over residuum weathered from igneous and metamorphic rock; Cecil—residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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.
- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.

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

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: Mattaponi—R; Cecil—X
Hydric soil: No

12C—Mattaponi-Cecil complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Mattaponi and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Cecil and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

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

Subsoil:
9 to 38 inches—strong brown clay loam
38 to 45 inches—strong brown clay; red iron-manganese masses
45 to 65 inches—strong brown clay; pinkish gray iron depletions

Cecil
Surface layer:
0 to 9 inches—strong brown sandy loam

Subsoil:
9 to 16 inches—red clay loam
16 to 50 inches—red clay
50 to 65 inches—red clay loam; many yellowish red mottles

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in concave, flood-prone positions
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mattaponi and Cecil soils

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium that has redder colors, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Mattaponi and Cecil soils

- Pacolet soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mattaponi and Cecil soils
- Wedowee soils, which are well drained and in landscape positions similar to those of the Mattaponi and Cecil soils

Soil Properties and Qualities

Available water capacity: Mattaponi—moderate (about 6.5 inches); Cecil—moderate (about 6.7 inches)
Slowest saturated hydraulic conductivity: Mattaponi—moderately high (about 0.20 in/hr); Cecil—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: Mattaponi—moderately well drained; Cecil—well drained
Depth to seasonal water saturation: Mattaponi—about 3.0 to 6.0 feet; Cecil—more than 6.0 feet
Water table kind: Perched
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mattaponi—moderate; Cecil—low
Runoff class: Medium
Surface fragments: None
Parent material: Mattaponi—alluvium and/or colluvium over residuum weathered from igneous and metamorphic rock; Cecil—residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

Pasture
Suitability: Moderately suited to pasture
- 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 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 creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- These soils are well suited to haul roads and log landings.

Building sites
- The seasonal high water table may restrict the period when excavations can be made.
- The slope influences the use of machinery and the amount of excavation required.
- 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.
- Slow water movement 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
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil may cause structural damage to local roads and streets.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Mattaponi—R; Cecil—X
Hydric soil: No

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

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 7 inches—strong brown gravelly sandy loam

Subsoil:
7 to 45 inches—red clay

Substratum:
45 to 61 inches—red sandy clay loam

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
- Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from quartzite

Use and Management Considerations

Cropland

Suitability: Moderately suited to corn, soybeans, wheat, tobacco, grass-legume hay, and alfalfa hay

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pasture

Suitability: Well suited to pasture

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

Woodland

Suitability: Well suited to loblolly pine

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

Building sites

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

Septic tank absorption fields

- These soils are well suited to septic tank absorption fields.

Local roads and streets

- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

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

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Mayodan and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 7 inches—strong brown gravelly sandy loam

Subsoil:
7 to 45 inches—red clay

Substratum:
45 to 61 inches—red sandy clay loam

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
- Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from quartzite

Use and Management Considerations

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

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

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

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

Septic tank absorption fields
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

13D—Mayodan gravelly sandy loam, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Mayodan and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 7 inches—strong brown gravelly sandy loam

Subsoil:
7 to 45 inches—red clay

Substratum:
45 to 61 inches—red sandy clay loam

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Mayodan soil

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Mayodan soil
- Beckham soils, which are well drained, formed in marble residuum, and are in the lower landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 6.7 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Residuum weathered from quartzite

Use and Management Considerations

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

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

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

- The slope 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.
- The use of equipment for preparing sites for planting and seeding is restricted because of the slope.
- 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 need for maintenance of haul roads and log landings.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

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

Septic tank absorption fields
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

14B—Mecklenburg loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

Mecklenburg and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 30 inches—red clay; black manganese masses
30 to 39 inches—yellowish red clay; black manganese masses
39 to 50 inches—yellowish red and reddish yellow loam; black manganese masses

Substratum:
50 to 65 inches—reddish yellow, red, and brownish yellow loam; black manganese masses

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg soil
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg soil
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg soil

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg soil
- Wedowee soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg soil
- Soils that have 15 to 25 percent gravel in the surface layer

Soil Properties and Qualities

Available water capacity: Moderate (about 7.9 inches)
Slowest saturated hydraulic conductivity: Moderately low (about 0.06 in/hr)
Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

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

Septic tank absorption fields
- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

15B—Mecklenburg-Poindexter complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Mecklenburg
Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 30 inches—red clay; black manganese masses
30 to 39 inches—yellowish red clay; black manganese masses
39 to 50 inches—yellowish red and reddish yellow loam; black manganese masses

Substratum:
50 to 65 inches—reddish yellow, red, and brownish yellow loam; black manganese masses

Poindexter
Surface layer:
0 to 7 inches—dark grayish brown gravelly silt loam

Subsoil:
7 to 21 inches—dark yellowish brown silt loam; common olive brown mottles

Substratum:
21 to 30 inches—grayish green, olive brown, greenish gray, and dark yellowish brown silt loam

Soft bedrock:
30 to 51 inches—dark yellowish brown, greenish gray, olive brown, and grayish green hornblende gneiss bedrock

Hard bedrock:
51 inches—hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Soil Properties and Qualities

Available water capacity: Mecklenburg—moderate (about 7.9 inches); Poindexter—low (about 5.1 inches)
Slowest saturated hydraulic conductivity: Mecklenburg—moderately low (about 0.06 in/hr); Poindexter—moderately high (about 0.57 in/hr)
Depth class: Mecklenburg—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)

Depth to root-restrictive feature: Mecklenburg—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mecklenburg—moderate; Poindexter—low
Runoff class: Mecklenburg—medium; Poindexter—high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

Woodland
Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites
- 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
- Slow water movement 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 proper installation of the effluent distribution lines is increased.

Local roads and streets
- The low strength of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: Mecklenburg—V; Poindexter—FF
Hydric soil: No

15C—Mecklenburg-Poindexter complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

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

Typical Profile

Mecklenburg
Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 30 inches—red clay; black manganese masses
30 to 39 inches—yellowish red clay; black manganese masses
39 to 50 inches—yellowish red and reddish yellow loam; black manganese masses

Substratum:
50 to 65 inches—reddish yellow, red, and brownish yellow loam; black manganese masses

Poindexter
Surface layer:
0 to 7 inches—dark grayish brown gravelly silt loam

Subsoil:
7 to 21 inches—dark yellowish brown silt loam; common olive brown mottles

Substratum:
21 to 30 inches—grayish green, olive brown, greenish gray, and dark yellowish brown silt loam

Soft bedrock:
30 to 51 inches—dark yellowish brown, greenish gray, olive brown, and grayish green hornblende gneiss bedrock

Hard bedrock:
51 inches—hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Soil Properties and Qualities

Available water capacity: Mecklenburg—moderate (about 7.9 inches); Poindexter—low (about 5.1 inches)
Slowest saturated hydraulic conductivity: Mecklenburg—moderately low (about 0.06 in/hr); Poindexter—moderately high (about 0.57 in/hr)
Depth class: Mecklenburg—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Mecklenburg—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mecklenburg—moderate; Poindexter—low
Runoff class: Mecklenburg—medium; Poindexter—high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

Woodland

Suitability: Moderately suited to loblolly pine and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil increases the difficulty of constructing haul roads and log landings when the soil is wet.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

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

- Slow water movement 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 proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength of the soil may cause structural damage to local roads and streets.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

15D—Mecklenburg-Poindexter complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

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

Typical Profile

Mecklenburg
Surface layer:
0 to 4 inches—reddish brown loam

Subsoil:
4 to 30 inches—red clay; black manganese masses
30 to 39 inches—yellowish red clay; black manganese masses
39 to 50 inches—yellowish red and reddish yellow loam; black manganese masses

Substratum:
50 to 65 inches—reddish yellow, red, and brownish yellow loam; black manganese masses

Poindexter
Surface layer:
0 to 7 inches—dark grayish brown gravelly silt loam

Subsoil:
7 to 21 inches—dark yellowish brown silt loam; common olive brown mottles

Substratum:
21 to 30 inches—grayish green, olive brown, greenish gray, and dark yellowish brown silt loam

Soft bedrock:
30 to 51 inches—dark yellowish brown, greenish gray, olive brown, and grayish green hornblende gneiss bedrock

Hard bedrock:
51 inches—hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Louisburg soils, which are well drained to excessively drained, moderately deep to bedrock, and in landscape positions similar to those of the Mecklenburg and Poindexter soils

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Mecklenburg and Poindexter soils

Soil Properties and Qualities

Available water capacity: Mecklenburg—moderate (about 7.9 inches); Poindexter—low (about 5.1 inches)
Slowest saturated hydraulic conductivity: Mecklenburg—moderately low (about 0.06 in/hr); Poindexter—moderately high (about 0.57 in/hr)
Depth class: Mecklenburg—very deep (more than 60 inches); Poindexter—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Mecklenburg—more than 60 inches; Poindexter—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Mecklenburg—moderate; Poindexter—low
Runoff class: Mecklenburg—high; Poindexter—very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- The stickiness of the soil restricts the use of equipment for site preparation to the drier periods.

Building sites

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

- Slow water movement 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 proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets

- The low strength of the soil may cause structural damage to local roads and streets.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

16B—Nason gravelly loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown gravelly loam

Subsurface layer:
4 to 12 inches—yellowish brown gravelly loam

Subsoil:
12 to 45 inches—strong brown clay; common red mottles

Soft bedrock:
45 to 63 inches—schist bedrock

Hard bedrock:
63 inches—schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Nason soil
- Soils that are moderately deep to sericite schist bedrock

Similar components:
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason soil
- Tatum soils, which are well drained, have redder colors than the Nason soil, and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Low (about 4.6 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from schist and/or phyllite

Use and Management Considerations

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

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

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

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

Septic tank absorption fields
- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

17B—Nason-Manteo complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

Nason and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Manteo and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Nason
Surface layer:
0 to 4 inches—dark grayish brown gravelly loam

Subsurface layer:
4 to 12 inches—yellowish brown gravelly loam

Subsoil:
12 to 45 inches—strong brown clay; common red mottles

Soft bedrock:
45 to 63 inches—schist bedrock

Hard bedrock:
63 inches—schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions

- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar components:
- Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Nason—low (about 4.6 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Nason—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Nason—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Nason—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nason—moderate; Manteo—low
Runoff class: Nason—medium; Manteo—high
Surface fragments: None
Parent material: Nason—residuum weathered from schist and/or phyllite; Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Well suited to grass-legume hay and wheat; moderately suited to alfalfa hay, corn, and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.

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

Woodland
Suitability: Well suited to loblolly pine; moderately suited to northern red oak
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

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.

- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields
- Slow water movement 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 proper installation of the effluent distribution lines is increased.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- 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: Nason—2e; Manteo—4s
Virginia soil management group: Nason—V; Manteo—JJ
Hydric soil: No

17C—Nason-Manteo complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Nason and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Manteo and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Nason
Surface layer:
0 to 4 inches—dark grayish brown gravelly loam

Subsurface layer:
4 to 12 inches—yellowish brown gravelly loam

Subsoil:
12 to 45 inches—strong brown clay; common red mottles

Soft bedrock:
45 to 63 inches—schist bedrock

Hard bedrock:
63 inches—schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar components:
- Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Nason—low (about 4.6 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Nason—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Nason—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Nason—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nason—moderate; Manteo—low
Runoff class: Nason—medium; Manteo—high
Surface fragments: None
Parent material: Nason—residuum weathered from schist and/or phyllite; Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Moderately suited to alfalfa hay, corn, grass-legume hay, soybeans, and wheat; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.

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

Woodland
Suitability: Well suited to loblolly pine; moderately suited to northern red oak

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.

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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields
- Slow water movement 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.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.
- 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: Nason—3e; Manteo—6s
Virginia soil management group: Nason—V; Manteo—JJ
Hydric soil: No

17D—Nason-Manteo complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Nason and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Manteo and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Nason
Surface layer:
0 to 4 inches—dark grayish brown gravelly loam

Subsurface layer:
4 to 12 inches—yellowish brown gravelly loam

Subsoil:
12 to 45 inches—strong brown clay; common red mottles

Soft bedrock:
45 to 63 inches—schist bedrock

Hard bedrock:
63 inches—schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained and in landscape positions similar to those of the Nason and Manteo soils

Similar components:
- Tatum soils, which are well drained, have redder colors than the Nason and Manteo soils, and are in similar landscape positions
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Nason—low (about 4.6 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Nason—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Nason—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Nason—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Nason—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Nason—moderate; Manteo—low
Runoff class: Nason—high; Manteo—very high
Surface fragments: None
Parent material: Nason—residuum weathered from schist and/or phyllite; Manteo—residuum weathered from mica schist

Use and Management Considerations

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

- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.

Pasture

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

Woodland

Suitability: Well suited to loblolly pine; moderately suited to 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.
- The use of equipment for preparing sites for planting and seeding is restricted because of the slope.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil 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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields
- Slow water movement 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.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.
- 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: Nason—4e; Manteo—6s
Virginia soil management group: Nason—V; Manteo—JJ
Hydric soil: No

18B—Pacolet-Louisburg complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

Pacolet and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Louisburg and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Pacolet
Surface layer:
0 to 7 inches—brown sandy loam

Subsoil:
7 to 23 inches—red clay
23 to 29 inches—red clay; many reddish yellow mottles

Substratum:
29 to 50 inches—red, yellowish brown, and yellowish red loam
50 to 64 inches—red, strong brown, and yellowish brown loam

Louisburg
Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar components:
- Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Manteo soils, which are somewhat excessively drained, are shallower to bedrock than the Pacolet and Louisburg soils, and are in similar landscape positions
- Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions

- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
- Soils that have felsic bedrock at a depth of 40 to 60 inches

Soil Properties and Qualities

Available water capacity: Pacolet—moderate (about 7.5 inches); Louisburg—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Pacolet—moderately high (about 0.57 in/hr); Louisburg—high (about 5.95 in/hr)
Depth class: Pacolet—very deep (more than 60 inches); Louisburg—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Pacolet—more than 60 inches; Louisburg—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Pacolet—medium; Louisburg—high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

Woodland
Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- 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 need for maintenance of haul roads and log landings.

Building sites
- Because of the nature and depth of the soft bedrock, the ease of excavation is reduced and the difficulty of constructing foundations and installing utilities is increased.
- 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
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.
- These soils are well suited to septic tank absorption fields.

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Pacolet—2e; Louisburg—3s
Virginia soil management group: Pacolet—X; Louisburg—FF
Hydric soil: No

18C—Pacolet-Louisburg complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

Pacolet and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Louisburg and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Pacolet
Surface layer:
0 to 7 inches—brown sandy loam

Subsoil:
7 to 23 inches—red clay
23 to 29 inches—red clay; many reddish yellow mottles

Substratum:
29 to 50 inches—red, yellowish brown, and yellowish red loam
50 to 64 inches—red, strong brown, and yellowish brown loam

Louisburg
Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar components:
- Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Pacolet and Louisburg soils, and in similar landscape positions
- Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
- Soils that have felsic bedrock at a depth of 40 to 60 inches

Soil Properties and Qualities

Available water capacity: Pacolet—moderate (about 7.5 inches); Louisburg—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Pacolet—moderately high (about 0.57 in/hr); Louisburg—high (about 5.95 in/hr)
Depth class: Pacolet—very deep (more than 60 inches); Louisburg—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Pacolet—more than 60 inches; Louisburg—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Pacolet—medium; Louisburg—high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland
Suitability: Moderately suited to alfalfa hay, corn, grass-legume hay, soybeans, and wheat; poorly suited to tobacco

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

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

Woodland
Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- 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 need for maintenance 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
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Pacolet—3e; Louisburg—4s
Virginia soil management group: Pacolet—X; Louisburg—FF
Hydric soil: No

18D—Pacolet-Louisburg complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Pacolet and similar soils: Typically 45 percent, ranging from about 40 to 55 percent
Louisburg and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Pacolet
Surface layer:
0 to 7 inches—brown sandy loam

Subsoil:
7 to 23 inches—red clay
23 to 29 inches—red clay; many reddish yellow mottles

Substratum:
29 to 50 inches—red, yellowish brown, and yellowish red loam
50 to 64 inches—red, strong brown, and yellowish brown loam

Louisburg
Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Pacolet and Louisburg soils

Similar components:
- Cecil soils, which are well drained, have a solum more than 40 inches thick, have bedrock at a depth of more than 60 inches, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Pacolet and Louisburg soils, and in similar landscape positions
- Mecklenburg soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Pacolet and Louisburg soils
- Poindexter soils, which are well drained, have higher base saturation than the Pacolet and Louisburg soils, and are in similar landscape positions
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Pacolet and Louisburg soils

- Wedowee soils, which are well drained, have yellower colors than the Pacolet and Louisburg soils, and are in similar landscape positions
- Soils that have felsic bedrock at a depth of 40 to 60 inches

Soil Properties and Qualities

Available water capacity: Pacolet—moderate (about 7.5 inches); Louisburg—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Pacolet—moderately high (about 0.57 in/hr); Louisburg—high (about 5.95 in/hr)
Depth class: Pacolet—very deep (more than 60 inches); Louisburg—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Pacolet—more than 60 inches; Louisburg—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Pacolet—high; Louisburg—very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

Woodland
Suitability: Moderately suited to loblolly pine and yellow-poplar
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope poses safety hazards and creates a potential for erosion during the construction of haul roads and log landings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks and harvesting equipment.
- The use of equipment for preparing sites for planting and seeding is restricted because of the slope.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- 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 need for maintenance of haul roads and log landings.
- The low strength of the soil 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
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e
Virginia soil management group: Pacolet—X; Louisburg—FF
Hydric soil: No

19E—Poindexter gravelly silt loam, 25 to 60 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

Poindexter and similar soils: Typically 85 percent, ranging from about 80 to 90 percent

Typical Profile

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

Subsoil:
7 to 21 inches—dark yellowish brown silt loam; common olive brown mottles

Substratum:
21 to 30 inches—grayish green, olive brown, greenish gray, and dark yellowish brown silt loam

Soft bedrock:
30 to 51 inches—dark yellowish brown, greenish gray, olive brown, and grayish green hornblende gneiss bedrock

Hard bedrock:
51 inches—hornblende gneiss bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained and in landscape positions similar to those of the Poindexter soil
- Mecklenburg soils, which are well drained and in landscape positions similar to those of the Poindexter soil
- Rock outcrops in landscape positions similar to those of the Poindexter soil

Similar components:
- Louisburg soils, which are well drained to excessively drained and in landscape positions similar to those of the Poindexter soil
- Manteo soils, which are somewhat excessively drained and in landscape positions similar to those of the Poindexter soil
- Wedowee soils, which are well drained, very deep to bedrock, and in landscape positions similar to those of the Poindexter soil
- Soils that have stones on the surface and are in landscape positions similar to those of the Poindexter soil

Soil Properties and Qualities

Available water capacity: Low (about 5.1 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Unsuited to pasture

Woodland
Suitability: Moderately suited to southern red oak; poorly suited to loblolly pine
- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality, 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.
- The slope makes the use of equipment for planting and seeding impractical.

- The slope makes the use of mechanical planting equipment impractical.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.

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

Septic tank absorption fields
- Slow water movement 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 proper installation of the effluent distribution lines is increased.
- The slope limits the proper treatment of effluent from conventional septic systems.

Local roads and streets
- The low strength of the soil may cause structural damage to local roads and streets.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

20A—Riverview loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains (fig. 4)
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

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

Subsoil:
6 to 18 inches—dark yellowish brown sandy clay loam
18 to 38 inches—dark yellowish brown sandy clay loam; brown iron-manganese masses

Substratum:
38 to 65 inches—very pale brown sandy loam; black manganese masses and yellowish brown masses of oxidized iron

Figure 4.—Flooding in an area of Riverview loam, 0 to 2 percent slopes, occasionally flooded.

Minor Components

Dissimilar components:
- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
- Chewacla soils, which are somewhat poorly drained and in the lower, more frequently flooded positions
- Wehadkee soils, which are poorly drained and in the lower, more frequently flooded positions

Similar components:
- State soils, which are well drained and in the higher, less flood-prone positions

Soil Properties and Qualities

Available water capacity: High (about 9.2 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 3.0 to 5.0 feet
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Well suited to corn, grass-legume hay, soybeans, and wheat; moderately suited to alfalfa hay; not suited to tobacco
- Flooding may damage crops.

Pasture
Suitability: Well suited to pasture
- 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 of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 in all areas
Land capability class: 2w
Virginia soil management group: G
Hydric soil: No

21A—State loam, 0 to 2 percent slopes, rarely flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Stream terraces
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

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

Subsoil:
6 to 20 inches—strong brown sandy clay loam
20 to 38 inches—strong brown clay; yellowish brown masses of oxidized iron

Substratum:
38 to 65 inches—strong brown clay loam; yellowish brown masses of oxidized iron

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, more flood-prone positions
- Riverview soils, which are well drained and in the lower, more flood-prone positions
- Wehadkee soils, which are poorly drained and in the lower, more flood-prone positions

Similar components:
- Altavista soils, which are moderately well drained and in landscape positions similar to those of the State soil

Soil Properties and Qualities

Available water capacity: Moderate (about 7.7 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: About 4.0 to 6.6 feet
Water table kind: Apparent
Flooding hazard: Rare
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

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

Pasture
Suitability: Well suited to pasture

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

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- The excessive permeability limits the proper treatment of the effluent from conventional septic systems and may pollute the water table.

Local roads and streets
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 1
Virginia soil management group: B
Hydric soil: No

22B—Tatum-Manteo complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Tatum
Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions

- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar components:
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
- Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Tatum—low (about 5.4 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Tatum—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Tatum—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Tatum—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Tatum—moderate; Manteo—low
Runoff class: Tatum—medium; Manteo—high
Surface fragments: None
Parent material: Tatum—residuum weathered from phyllite and/or mica schist; Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Well suited to grass-legume hay and wheat; moderately suited to alfalfa hay, corn, and soybeans; poorly suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

Woodland

Suitability: Moderately suited to loblolly pine, northern red oak, and yellow-poplar

- Proper planning for timber harvesting is essential in order to minimize the potential negative impact to soil and water quality. A timber harvest plan should include general adherence to all applicable best management practices.
- The slope may restrict the use of some mechanical planting equipment.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields

- Slow water movement 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 proper installation of the effluent distribution lines is increased.

Local roads and streets

- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- 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: Tatum—2e; Manteo—4s
Virginia soil management group: Tatum—X; Manteo—JJ
Hydric soil: No

22C—Tatum-Manteo complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

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

Typical Profile

Tatum

Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar components:
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
- Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Tatum—low (about 5.4 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Tatum—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Tatum—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Tatum—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None

Shrink-swell potential: Tatum—moderate; Manteo—low
Runoff class: Tatum—medium; Manteo—high
Surface fragments: None
Parent material: Tatum—residuum weathered from phyllite and/or mica schist; Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Moderately suited to alfalfa hay, corn, grass-legume hay, soybeans, and wheat; poorly suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

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

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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields
- Slow water movement 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.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.

- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.
- 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: Tatum—3e; Manteo—6s
Virginia soil management group: Tatum—X; Manteo—JJ
Hydric soil: No

22D—Tatum-Manteo complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

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

Typical Profile

Tatum
Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Manteo
Surface layer:
0 to 2 inches—dark yellowish brown very channery loam

Subsurface layer:
2 to 7 inches—yellowish brown very channery loam

Subsoil:
7 to 14 inches—brown very channery clay loam

Hard bedrock:
14 inches—schist bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium

underlain by residuum, and are in landscape positions similar to those of the Tatum and Manteo soils

Similar components:
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Nason soils, which are well drained, have yellower colors than the Tatum and Manteo soils, and are in similar landscape positions
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum and Manteo soils
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum and Manteo soils
- Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum and Manteo soils
- Soils that are moderately deep to sericite schist bedrock

Soil Properties and Qualities

Available water capacity: Tatum—low (about 5.4 inches); Manteo—very low (about 1.2 inches)
Slowest saturated hydraulic conductivity: Tatum—moderately high (about 0.57 in/hr); Manteo—high (about 1.98 in/hr)
Depth class: Tatum—deep (40 to 60 inches); Manteo—shallow (10 to 20 inches)
Depth to root-restrictive feature: Tatum—40 to 60 inches to bedrock (paralithic); Manteo—10 to 20 inches to bedrock (lithic)
Drainage class: Tatum—well drained; Manteo—somewhat excessively drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Tatum—moderate; Manteo—low
Runoff class: Tatum—high; Manteo—very high
Surface fragments: None
Parent material: Tatum—residuum weathered from phyllite and/or mica schist; Manteo—residuum weathered from mica schist

Use and Management Considerations

Cropland
Suitability: Moderately suited to alfalfa hay, grass-legume hay, and wheat; poorly suited to corn and soybeans; not suited to tobacco
- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.
- The limited available water capacity may cause plants to suffer from moisture stress.
- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

Woodland
Suitability: Well suited to chestnut oak; 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.
- The use of equipment for preparing sites for planting and seeding is restricted because of the slope.
- The slope may restrict the use of some mechanical planting equipment.
- Bedrock may interfere with the construction of haul roads and log landings.
- Rock fragments restrict the use of equipment during site preparation for planting or seeding.
- The low strength of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

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.
- Because of the limited depth to bedrock, the ease of excavation is greatly reduced and the difficulty of constructing foundations and installing utilities is increased.

Septic tank absorption fields
- Slow water movement 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.
- Because of the limited depth to bedrock, the filtering capacity of the soil is reduced and the difficulty of proper installation of the effluent distribution lines is increased.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.
- 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: Tatum—4e; Manteo—6s
Virginia soil management group: Tatum—X; Manteo—JJ
Hydric soil: No

23B—Tatum silt loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum soil
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Tatum soil
- Poindexter soils, which are well drained, moderately deep to bedrock, and in landscape positions similar to those of the Tatum soil
- Soils that are moderately deep to sericite schist bedrock

Similar components:
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Tatum soil
- Nason soils, which are well drained, have yellower colors than the Tatum soil, and are in similar landscape positions
- Pacolet soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Tatum soil
- Turbeville soils, which are well drained, formed in alluvium, and are in landscape positions similar to those of the Tatum soil

Soil Properties and Qualities

Available water capacity: Low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Deep (40 to 60 inches)
Depth to root-restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from phyllite and/or mica schist

Use and Management Considerations

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

- The risk of compaction increases when the soil is wet.
- Soil crusting results in a decrease in water infiltration and hinders the emergence of seedlings.

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

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
- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: X
Hydric soil: No

24B—Turbeville loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High, level stream terraces
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 65 inches—red clay; black manganese masses

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville soil
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Turbeville soil
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville soil
- Soils that have a subsoil that is yellower than that of the Turbeville soil

Soil Properties and Qualities

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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

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

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

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

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

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

Septic tank absorption fields
- These soils are well suited to septic tank absorption fields.

Local roads and streets
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: O
Hydric soil: No

24C—Turbeville loam, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High, level stream terraces
Position on the landform: Risers

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 65 inches—red clay; black manganese masses

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville soil
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville soil, and in similar landscape positions

Similar components:
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville soil

- Tatum soils, which are well drained, formed in residuum from sericite schist and phyllite, and are in landscape positions similar to those of the Turbeville soil
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville soil
- Soils that have a subsoil that is yellower than that of the Turbeville soil

Soil Properties and Qualities

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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Old alluvium

Use and Management Considerations

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

Pasture
Suitability: Well suited to pasture (fig. 5)
- The hazard of erosion, the rate of surface runoff, and the amount of nutrient loss are increased because of the slope.

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

Figure 5.—Pasture in an area of Turbeville loam, 7 to 15 percent slopes, is in the foreground. An area of Altavista loam, 0 to 2 percent slopes, occasionally flooded, is in the background.

- The low strength of the soil may cause structural damage to local roads and streets.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

25B—Turbeville-Tatum complex, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Turbeville—high level stream terraces; Tatum—hillslopes
Position on the landform: Turbeville—treads; Tatum—interfluves

Map Unit Composition

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

Typical Profile

Turbeville
Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 65 inches—red clay; black manganese masses

Tatum
Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
- Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Turbeville—moderate (about 6.9 inches); Tatum—low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Turbeville—very deep (more than 60 inches); Tatum—deep (40 to 60 inches)
Depth to root-restrictive feature: Turbeville—more than 60 inches; Tatum—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium
Surface fragments: None
Parent material: Turbeville—old alluvium; Tatum—residuum weathered from phyllite and/or mica schist

Use and Management Considerations

Cropland

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

- The rate of surface runoff, the erosion hazard, and the amount of nutrient loss are increased because of the slope.
- The high clay content restricts the rooting depth of crops.

Pasture

Suitability: Well suited to pasture

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

Woodland

Suitability: Moderately suited to loblolly pine, southern red oak, and yellow-poplar

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

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

- Slow water movement limits the absorption and proper treatment of the effluent from conventional septic systems.

Local roads and streets

- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: Turbeville—O; Tatum—X
Hydric soil: No

25C—Turbeville-Tatum complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Turbeville—high level stream terraces; Tatum—hillslopes
Position on the landform: Turbeville—treads; Tatum—interfluves and side slopes

Map Unit Composition

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

Typical Profile

Turbeville
Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 65 inches—red clay; black manganese masses

Tatum
Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
- Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Turbeville—moderate (about 6.9 inches); Tatum—low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Turbeville—very deep (more than 60 inches); Tatum—deep (40 to 60 inches)
Depth to root-restrictive feature: Turbeville—more than 60 inches; Tatum—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: Medium

Surface fragments: None
Parent material: Turbeville—old alluvium; Tatum—residuum weathered from phyllite and/or mica schist

Use and Management Considerations

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

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

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

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
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 3e
Virginia soil management group: Turbeville—O; Tatum—X
Hydric soil: No

25D—Turbeville-Tatum complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: High, level stream terraces and hillslopes
Position on the landform: Turbeville—treads; Tatum—side slopes

Map Unit Composition

Turbeville and similar soils: Typically 45 percent, ranging from about 40 to 50 percent
Tatum and similar soils: Typically 40 percent, ranging from about 35 to 45 percent

Typical Profile

Turbeville
Surface layer:
0 to 4 inches—brown loam

Subsoil:
4 to 65 inches—red clay; black manganese masses

Tatum
Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 10 inches—yellowish red silt loam
10 to 41 inches—red clay

Soft bedrock:
41 to 60 inches—yellow and reddish brown schist bedrock

Minor Components

Dissimilar components:
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Manteo soils, which are somewhat excessively drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions

Similar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cecil soils, which are well drained, formed in residuum from felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Cullen soils, which are well drained, formed in residuum from mixed mafic and felsic crystalline rock, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Nason soils, which are well drained, formed in residuum from sericite schist, and are in landscape positions similar to those of the Turbeville and Tatum soils
- Poindexter soils, which are well drained, shallower to bedrock than the Turbeville and Tatum soils, and in similar landscape positions
- Alluvial soils that have a yellower subsoil than the Turbeville and Tatum soils and are in similar landscape positions

Soil Properties and Qualities

Available water capacity: Turbeville—moderate (about 6.9 inches); Tatum—low (about 5.4 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)
Depth class: Turbeville—very deep (more than 60 inches); Tatum—deep (40 to 60 inches)
Depth to root-restrictive feature: Turbeville—more than 60 inches; Tatum—40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet

Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Moderate
Runoff class: High
Surface fragments: None
Parent material: Turbeville—old alluvium; Tatum—residuum weathered from phyllite and/or mica schist

Use and Management Considerations

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

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

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

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
- Shrinking and swelling restrict the use of the soil as base material for local roads and streets.
- The low strength of the soil is unfavorable for supporting heavy loads.
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: 4e

Virginia soil management group: Turbeville—O; Tatum—X
Hydric soil: No

26—Udorthents-Urban land complex, 0 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

Udorthents and similar soils: Typically 50 percent, ranging from about 45 to 55 percent
Urban land: Typically 35 percent, ranging from about 30 to 40 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. They consist primarily 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 generally are 0 to 15 percent but can range from 0 to 45 percent.

Urban land

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

Minor Components

Dissimilar components:
- Undisturbed soils
- Areas consisting of nonsoil materials, such as loose concrete, wood, glass, and asphalt

Use and Management Considerations

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

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Udorthents—unspecified; Urban land—8s
Virginia soil management group: None assigned
Hydric soil: Udorthents—no; Urban land—unranked

27B—Wedowee sandy loam, 2 to 7 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 7 inches—brown and yellowish brown sandy loam

Subsoil:
7 to 25 inches—brownish yellow and yellowish brown clay loam

Substratum:
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—brownish yellow, yellowish brown, very pale brown, and yellowish red sandy clay loam

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee soil
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee soil, and are in similar landscape positions
- Louisburg soils, which are well drained to excessively drained, shallower to bedrock than the Wedowee soil, and in similar landscape positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee soil
- Poindexter soils, which are well drained, shallower to bedrock than the Wedowee soil, and in similar landscape positions

Soil Properties and Qualities

Available water capacity: Moderate (about 7.1 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 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Medium
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

Building sites
- The soil is well suited to building sites.

Septic tank absorption fields
- The soil is well suited to septic tank absorption fields.

Local roads and streets
- The low strength of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 2e
Virginia soil management group: V
Hydric soil: No

28C—Wedowee-Louisburg complex, 7 to 15 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Interfluves and side slopes

Map Unit Composition

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

Typical Profile

Wedowee
Surface layer:
0 to 7 inches—brown and yellowish brown sandy loam

Subsoil:
7 to 25 inches—brownish yellow and yellowish brown clay loam

Substratum:
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—brownish yellow, yellowish brown, very pale brown, and yellowish red sandy clay loam

Louisburg

Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee and Louisburg soils, and are in similar landscape positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils

Similar components:
- Cecil soils, which are well drained, have a solum that is thicker and redder than that of the Wedowee and Louisburg soils, and are in similar landscape positions
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Wedowee and Louisburg soils
- Pacolet soils, which are well drained, have redder colors than the Wedowee and Louisburg soils, and are in similar landscape positions
- Poindexter soils, which are well drained, shallower to bedrock than the Wedowee and Louisburg soils, and in similar landscape positions

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 7.1 inches); Louisburg—very low (about 2.4 inches)
Slowest saturated hydraulic conductivity: Wedowee—moderately high (about 0.57 in/hr); Louisburg—high (about 5.95 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Louisburg—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Louisburg—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—medium; Louisburg—high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

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

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

Local roads and streets
- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

Prime farmland: Not prime farmland
Land capability class: Wedowee—3e; Louisburg—4s
Virginia soil management group: Wedowee—V; Louisburg—FF
Hydric soil: No

28D—Wedowee-Louisburg complex, 15 to 25 percent slopes

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Hillslopes
Position on the landform: Side slopes

Map Unit Composition

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

Typical Profile

Wedowee
Surface layer:
0 to 7 inches—brown and yellowish brown sandy loam

Subsoil:
7 to 25 inches—brownish yellow and yellowish brown clay loam

Substratum:
25 to 47 inches—yellowish brown, brownish yellow, and yellowish red sandy clay loam
47 to 65 inches—brownish yellow, yellowish brown, very pale brown, and yellowish red sandy clay loam

Louisburg
Surface layer:
0 to 4 inches—dark grayish brown gravelly coarse sandy loam

Subsurface layer:
4 to 13 inches—yellowish brown gravelly coarse sandy loam

Subsoil:
13 to 28 inches—brownish yellow gravelly sandy loam

Soft bedrock:
28 to 72 inches—brownish yellow and strong brown granite bedrock

Minor Components

Dissimilar components:
- Appomattox soils, which are well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils
- Chewacla soils, which are somewhat poorly drained and in the lower, flood-prone positions
- Iredell soils, which are moderately well drained, have more clay in the subsoil than the Wedowee and Louisburg soils, and are in similar landscape positions
- Mattaponi soils, which are moderately well drained, formed in alluvium or colluvium underlain by residuum, and are in landscape positions similar to those of the Wedowee and Louisburg soils

Similar components:
- Cecil soils, which are well drained, have a solum that is thicker and redder than that of the Wedowee and Louisburg soils, and are in similar landscape positions
- Mecklenburg soils, which are well drained, formed in residuum from mafic crystalline rock, and are in landscape positions similar to those of the Wedowee and Louisburg soils
- Pacolet soils, which are well drained, have redder colors than the Wedowee and Louisburg soils, and are in similar landscape positions
- Poindexter soils, which are well drained, shallower to bedrock than the Wedowee and Louisburg soils, and in similar landscape positions

Soil Properties and Qualities

Available water capacity: Wedowee—moderate (about 7.1 inches); Louisburg—very low (about 2.4 inches)

Slowest saturated hydraulic conductivity: Wedowee—moderately high (about 0.57 in/hr); Louisburg—high (about 5.95 in/hr)
Depth class: Wedowee—very deep (more than 60 inches); Louisburg—moderately deep (20 to 40 inches)
Depth to root-restrictive feature: Wedowee—more than 60 inches; Louisburg—20 to 40 inches to bedrock (paralithic)
Drainage class: Well drained
Depth to seasonal water saturation: More than 6.0 feet
Flooding hazard: None
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Wedowee—high; Louisburg—very high
Surface fragments: None
Parent material: Residuum weathered from igneous and metamorphic rock

Use and Management Considerations

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

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

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

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

Septic tank absorption fields

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

Local roads and streets

- Designing local roads and streets is difficult because of the slope.

Interpretive Groups

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

29A—Wehadkee loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains and backswamps
Position on the landform: Low, concave backwater treads of larger streams and low, linear treads adjacent to smaller streams

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 6 inches—grayish brown loam

Subsoil:
6 to 14 inches—light brownish gray loam; yellowish red and light yellowish brown iron-manganese masses
14 to 25 inches—light olive gray loam; yellowish brown and yellowish red iron-manganese masses
25 to 45 inches—gray loam; yellowish red and brownish yellow iron-manganese masses

Substratum:
45 to 74 inches—gray, light gray, and yellowish brown sandy loam

Minor Components

Dissimilar components:

- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
- Riverview soils, which are well drained and in convex positions

Similar components:

- Chewacla soils, which are somewhat poorly drained and in landscape positions similar to those of the Wehadkee soil
- Soils that have 15 to 25 percent gravel in the subsoil
- Soils that have heavier textures than the Wehadkee soil

Soil Properties and Qualities

Available water capacity: High (about 10.5 inches)
Slowest saturated hydraulic conductivity: Moderately high (about 0.57 in/hr)

Depth class: Very deep (more than 60 inches)
Depth to root-restrictive feature: More than 60 inches
Drainage class: Poorly drained
Depth to seasonal water saturation: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Moderately suited to pasture
- 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 yellow-poplar; 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 of the soil interferes with the construction of haul roads and log landings.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 of the soil may cause structural damage to local roads and streets.

Interpretive Groups

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

30A—Wingina loam, 0 to 2 percent slopes, occasionally flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 14 inches—dark brown and very dark grayish brown loam

Subsoil:
14 to 72 inches—brown loam

Minor Components

Dissimilar components:
- Altavista soils, which are moderately well drained and in the higher, less flood-prone positions
- Yogaville soils, which are poorly drained and in the concave backwater positions

Similar components:
- Batteau soils, which are moderately well drained and in landscape positions similar to those of the Wingina soil

Soil Properties and Qualities

Available water capacity: High (about 11.1 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: About 48 inches
Water table kind: Apparent
Flooding hazard: Occasional
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Low
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Well suited to alfalfa hay, corn, grass-legume hay, soybeans, and wheat; not suited to tobacco
- Flooding may damage crops.

Pasture
Suitability: Well suited to pasture
- 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 of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 low strength of the soil may cause structural damage to local roads and streets.

Interpretive Groups

Prime farmland: Prime farmland in all areas
Land capability class: 1
Virginia soil management group: A
Hydric soil: No

31A—Yogaville loam, 0 to 2 percent slopes, frequently flooded

Setting

Major land resource area: Southern Piedmont (MLRA 136)
Landform: Flood plains and backswamps
Position on the landform: Treads

Map Unit Composition

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

Typical Profile

Surface layer:
0 to 14 inches—dark brown and very dark grayish brown loam

Subsoil:
14 to 32 inches—gray clay loam; light yellowish brown iron-manganese masses
32 to 55 inches—gray silt loam; yellowish brown iron-manganese masses
55 to 72 inches—gray loam; yellowish brown iron-manganese masses

Minor Components

Dissimilar components:
- Wingina soils, which are well drained and in convex positions
- Batteau soils, which are moderately well drained and in convex or linear areas

Similar components:
- Wehadkee soils, which have a lower base saturation than the Yogaville soil

Soil Properties and Qualities

Available water capacity: High (about 9.9 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: Poorly drained
Depth to seasonal water saturation: About 0 to 1.0 foot
Water table kind: Apparent
Flooding hazard: Frequent
Ponding hazard: None
Shrink-swell potential: Low
Runoff class: Very high
Surface fragments: None
Parent material: Recent alluvium

Use and Management Considerations

Cropland
Suitability: Unsuited to cropland

Pasture
Suitability: Moderately suited to pasture
- 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 yellow-poplar; 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 of the soil interferes with the construction of haul roads and log landings.
- The low strength of the soil may create unsafe conditions for log trucks.

Building sites
- Flooding limits the use of the soil for building site development.
- The seasonal high water table may restrict the period when excavations can be made.

Septic tank absorption fields
- Flooding limits the use of the soil for 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 of the soil may cause structural damage to local roads and streets.

Interpretive Groups

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

W—Water

Setting

Major land resource area: Southern Piedmont (MLRA 136)

Typical Profile

These areas consist of lakes, rivers, and reservoirs.

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; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for agricultural waste management. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

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

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

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

Interpretive Ratings

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

Rating Class Terms

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

Numerical Ratings

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

Crops and Pasture

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

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

According to the 1987 Census of Agriculture Advance County Report, Appomattox County had about 36,600 acres of cropland. This total consisted of about 3,500 acres of row crops, such as corn, and 33,100 acres of hay and pasture. The acreage of cultivated crops has been gradually decreasing. The size of farms, however, has been increasing. Soil erosion is the major concern on most of the soils used for cropland in Appomattox County. Most of the soils in the county, except for soils on flood plains and some low stream terraces, have slopes of more than 2 percent and thus have a moderate or severe hazard of erosion.

Loss of the surface layer through erosion is damaging. It reduces the organic matter content, the water-holding capacity, and soil fertility. The soil’s potential productivity decreases, and seedbed preparation becomes difficult. Erosion also results in the sedimentation of streams and lakes, which lowers the quality of water for fish and wildlife.

Erosion is especially damaging on soils that have a clayey subsoil and on soils that have bedrock near the surface. For example, erosion of the surface layer on Appomattox, Cullen, and Cecil soils exposes a clayey subsoil that is less productive than the original surface layer and more difficult to till. On Louisburg, Manteo, and Poindexter soils, erosion exposes less productive soil material and also decreases the amount of productive soil material between the surface and bedrock.

Erosion-control practices provide a protective surface cover, reduce runoff, and increase the rate of water infiltration. A cropping system that keeps a vegetative cover on the soil for extended periods helps to minimize soil loss and maintain the productive capacity of the soil. A conservation cropping system that consists of rotations of hay or pasture crops and row crops reduces the hazard of erosion, increases the organic matter content of the surface layer, increases fertility and the available water capacity, and improves tilth.

Using sod in waterways and practicing contour tillage are common erosion-control practices in the survey area. They are suited to most areas of Appomattox, Beckham, Cecil, Cullen, Iredell, Louisburg, Manteo, Mattaponi, Mecklenburg, Nason, Pacolet, Poindexter, Tatum, Turbeville, and Wedowee soils. Conservation tillage, winter cover crops, and crop residue left on the surface help to reduce runoff rates and increase infiltration. These practices are suitable for most of the soils in the county but are more difficult to use in severely eroded areas than in areas having little or no erosion.

Fertility is low in most of the soils in the county, and reaction in most unlimed areas is strongly acid or very strongly acid. Applications of lime and fertilizer are needed for crop production on most of the soils.

Drainage is needed on a small acreage of cropland in the county. Wehadkee and Chewacla soils are so wet that they require subsurface drainage to produce the crops commonly grown in the county. Iredell and Mecklenburg soils commonly remain wet through spring, and clods form on the surface if these soils are plowed when wet. The type of drainage system needed varies according to the type of soil being drained. Subsurface drainage lines generally are needed for slowly permeable soils.

Field crops suited to the soils and climate of the survey area are corn, soybeans, wheat, rye, barley, and oats. The major plants grown and harvested for hay are Kentucky-31 fescue, orchardgrass, ryegrass, red clover, and alfalfa.

Pastures consist of tall fescue, orchardgrass, and clover. The common pasture management practices are weed control, the use of proper stocking rates, rotational grazing, restriction of grazing when the soils are wet, and applications of lime and fertilizer.

The main specialty crops grown in the county are apples, peaches, nectarines, grapes, vegetables, strawberries, and nursery plants. Most of the deep, well drained, upland soils are suited to these specialty crops. Good air drainage is essential for fruits and early-season vegetables.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 5a and 5b. In any given year, yields may be higher or lower than those indicated in the tables 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 are shown in the tables.

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

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

Realistic yield goals can be maintained over a long-term basis through proper nutrient management and other soil amendments, such as lime. Nitrogen and phosphorus from organic and inorganic forms should be applied 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 tables 5a and 5b 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 forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961). Capability classes and subclasses are assigned to soils in this survey area; capability units are not assigned.

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

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

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

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

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

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

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

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

The capability classification of the soils in this survey area is given in the section “Detailed Soil Map Units” and in tables 5a and 5b.

Virginia Soil Management Groups

The Virginia Agronomic Land Use Evaluation System (VALUES) is a system to rank soils for management and productivity (Virginia Polytechnic Institute and State University, 1994). VALUES places each soil series in Virginia into one of 43 management groups. The 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. Economically and environmentally feasible yields 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 Appomattox County.

Group A. The soils of this group formed in alluvium and are on gently sloping flood plains or streams terraces. These soils are deep, have a medium texture throughout, are high water suppliers, and are well drained.

Group B. The soils of this group formed in alluvium and are on nearly level or gently sloping flood plains or stream terraces in the Coastal Plain region. These soils are very deep, have a loamy texture throughout, are high water suppliers, and are well drained or moderately well drained.

Group G. The soils of this group formed in locally transported, medium-textured sediments of either colluvial or alluvial origin of the Piedmont. They overlay a wide range of residual materials and are on landscape positions ranging from footslopes and toeslopes to the heads of drainageways, depressions, and narrow upland drainageways. These soils are deep, have a silty to loamy upper subsoil that is underlain by clayey to stony materials, are moderately high water suppliers, and are moderately well drained or somewhat poorly drained.

Group I. The soils of this group formed in alluvium along flood plains in the Coastal Plain and Piedmont provinces and are somewhat prone to flooding. These soils are deep, have a predominantly clay loam subsurface layer, are moderately high water suppliers, and are somewhat poorly drained.

Group N. The soils of this group formed in residuum, ranging from weathered mafic rocks to Triassic sediments, on dissected uplands in the Piedmont. These soils are moderately deep or deep, have a medium-textured surface layer and a reddish brown clayey subsurface layer, are moderate water suppliers, and are well drained.

Group O. The soils of this group formed in transported materials from old alluvium on dissected uplands. These soils are deep to shallow; have very dark red, clayey subsurface layers, which sometimes contain significant coarse fragments; are moderate water suppliers; and are well drained.

Group R. The soils of this group formed in marine sediments in the Coastal Plain on gently sloping uplands. These soils are very deep, have a sandy loam surface layer and a reddish yellow clay loam to clay subsurface layer, may have redoximorphic features in the lower part of the subsoil, are moderate water suppliers, and are well drained or moderately well drained.

Group V. The soils of this group formed in saprolites derived from a variety of parent materials, including slates, granites, gneisses, schists, and more basic granitic rocks. These soils have a clayey subsurface layer, are moderate water suppliers, and are well drained.

Group X. The soils of this group formed in a variety of residual materials, including slates, granites, gneisses, and schists. These soils have a clayey subsurface layer, which sometimes contain coarse fragments or gravel; are moderate water suppliers; and are well drained or moderately well drained.

Group FF. The soils of this group formed in residual parent materials, ranging from sandstone, shales, and slates to loamy granitic saprolites, and extend across the Piedmont on steeply dissected uplands. These soils are moderately shallow;

generally have a loamy-skeletal subsurface layer, which may contain 80 percent or more coarse fragments; are very low or low water suppliers; and are moderately well drained or well drained.

Group JJ. The soils of this group formed in a wide variety of residual parent materials, ranging from sandstones and shales to Triassic materials and granite and schist saprolites, and are located primarily in the Piedmont. These soils are shallow, have predominantly loamy-skeletal textures throughout that range from 30 to 70 percent coarse fragments, are very low water suppliers, and are well drained.

Group KK. The soils of this group formed in a variety of residual materials, including Triassic sediments, residuum from basic rocks, and other clayey sediments. These soils are moderately deep, have a clayey subsurface layer, commonly have large components of high shrink-swell clays, are moderate water suppliers, and are moderately well drained or somewhat poorly drained.

Group MM. The soils of this group formed in loamy sediments. These soils flood frequently, are high water suppliers, and are poorly drained.

The management groups for the map units in Appomattox County are given in the section “Detailed Soil Map Units” and in the yields tables.

Prime Farmland Farmlands

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.

About 78,824 acres in the survey area, or nearly 37 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most areas are in the southeastern part.

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

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

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

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

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 1998) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

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

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

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

The following map units meet 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 (National Research Council, 1995; Hurt and others, 2002).

29A Wehadkee loam, 0 to 2 percent slopes, frequently flooded
31A Yogaville loam, 0 to 2 percent slopes, frequently flooded

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.

1A Altavista loam, 0 to 2 percent slopes, occasionally flooded
3A Batteau loam, 0 to 2 percent slopes, frequently flooded
6A Chewacla loam, 0 to 2 percent slopes, frequently flooded
20A Riverview loam, 0 to 2 percent slopes, occasionally flooded
21A State loam, 0 to 2 percent slopes, rarely flooded
30A Wingina loam, 0 to 2 percent slopes, occasionally flooded

Agricultural Waste Management

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

Tables 7a, 7b, and 7c show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

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

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

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

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

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include saturated hydraulic conductivity (Ksat), depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Saturated hydraulic conductivity (Ksat) and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, saturated hydraulic conductivity (Ksat), depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forestland Productivity and Management

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,” 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

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.

In tables 9a, 9b, 9c, 9d, and 9e, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

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

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion 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 erosion 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

The James and Appomattox Rivers provide many recreational opportunities, including boating, fishing, swimming, and hunting. Several public boat landings are located along the James River. The Appomattox Courthouse National Historical Park and the Holliday Lake State Park are also available to the public for recreational opportunities. Several private camping facilities are located throughout the county. The County Department of Parks and Recreation organizes and provides facilities for athletic and recreational activities.

In tables 10a and 10b, 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 tables 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 tables 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 these tables 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, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), 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, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), 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, saturated hydraulic conductivity (Ksat), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity (Ksat), 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, saturated hydraulic conductivity (Ksat), 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. Tables 11a and 11b 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 tables 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 tables 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

Tables 12a and 12b 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 tables 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 72 inches or between a depth of 24 inches and a restrictive layer 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. Saturated hydraulic conductivity (Ksat), 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, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (Ksat) 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 Ksat rate of more than 14 micrometers per second 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 saturated hydraulic conductivity (Ksat), 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, saturated hydraulic conductivity (Ksat), 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 the downward movement of water through the soil profile 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

Tables 13a and 13b 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 (fig. 6). They are used in many kinds of construction. Specifications for each use vary widely. In table 13a, 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 13b, the rating class terms are *good, fair,* and *poor*. The features that limit the soils as sources of these materials are specified in the tables. 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.

Figure 6.—Gravel exposed in a roadcut through Appomattox soil in an area of Appomattox-Cullen complex, 7 to 15 percent slopes.

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 saturated hydraulic conductivity (Ksat) 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 5 or 6 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 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 (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical Soil Properties

Table 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. Only the clay content is given in the table for this survey area.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter 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, saturated hydraulic conductivity (Ksat), 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 (Ksat) refers to the ability of a soil to transmit water or air. 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. Saturated hydraulic conductivity (Ksat) 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 saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the “National Soil Survey Handbook,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Soil Properties

Table 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 bases 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 bases 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.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

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 and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

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, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 1998). 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. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, active, thermic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The Poindexter series is an example of fine-loamy, mixed, active, thermic Typic Hapludalfs.

Table 20 indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993) and in the “Field Book for Describing and Sampling Soils” (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1998). 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.

Altavista Series

Physiographic province: Southern Piedmont
Landform: Stream terrace
Parent material: Recent alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep (fig. 7)
Slope range: 0 to 2 percent

Associated Soils

- Batteau soils, which have a thick, dark surface layer, have a subsoil that is less developed than that of the Altavista soils, and are in positions on adjacent flood plains
- Chewacla soils, which have iron and manganese depletions in the upper part of the subsoil and are in slight depressions on adjacent flood plains
- Riverview soils, which have a subsoil that is less developed than that of the Altavista soils and are in positions on adjacent flood plains
- State soils, which do not have redoximorphic features in the lower part of the subsoil and are in landscape positions similar to those of the Altavista soils
- Wingina soils, which have a thick, dark surface layer, have a subsoil that is less developed than that of the Altavista soils, and are in positions on adjacent flood plains
- Yogaville soils, which have a thick, dark surface layer, have a gray subsoil, and are in positions on adjacent flood plains

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Typical Pedon

Altavista loam, 0 to 2 percent slopes, occasionally flooded; located in an area of pasture, 1.5 miles north-northwest (342 degrees) of the junction of Highways VA-639 and VA-627 and 1.4 miles east-northeast (82 degrees) of the junction of Highways VA-632 and VA-627.

Ap—0 to 6 inches; yellowish brown (10YR 5/4) loam; massive; friable, nonsticky, nonplastic; many fine and medium roots; moderately acid; clear smooth boundary.

Bt1—6 to 25 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; very few faint clay films on all faces of peds, few distinct clay films between sand grains, and common distinct clay bridges between sand grains; moderately acid; gradual smooth boundary.

Bt2—25 to 40 inches; yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine

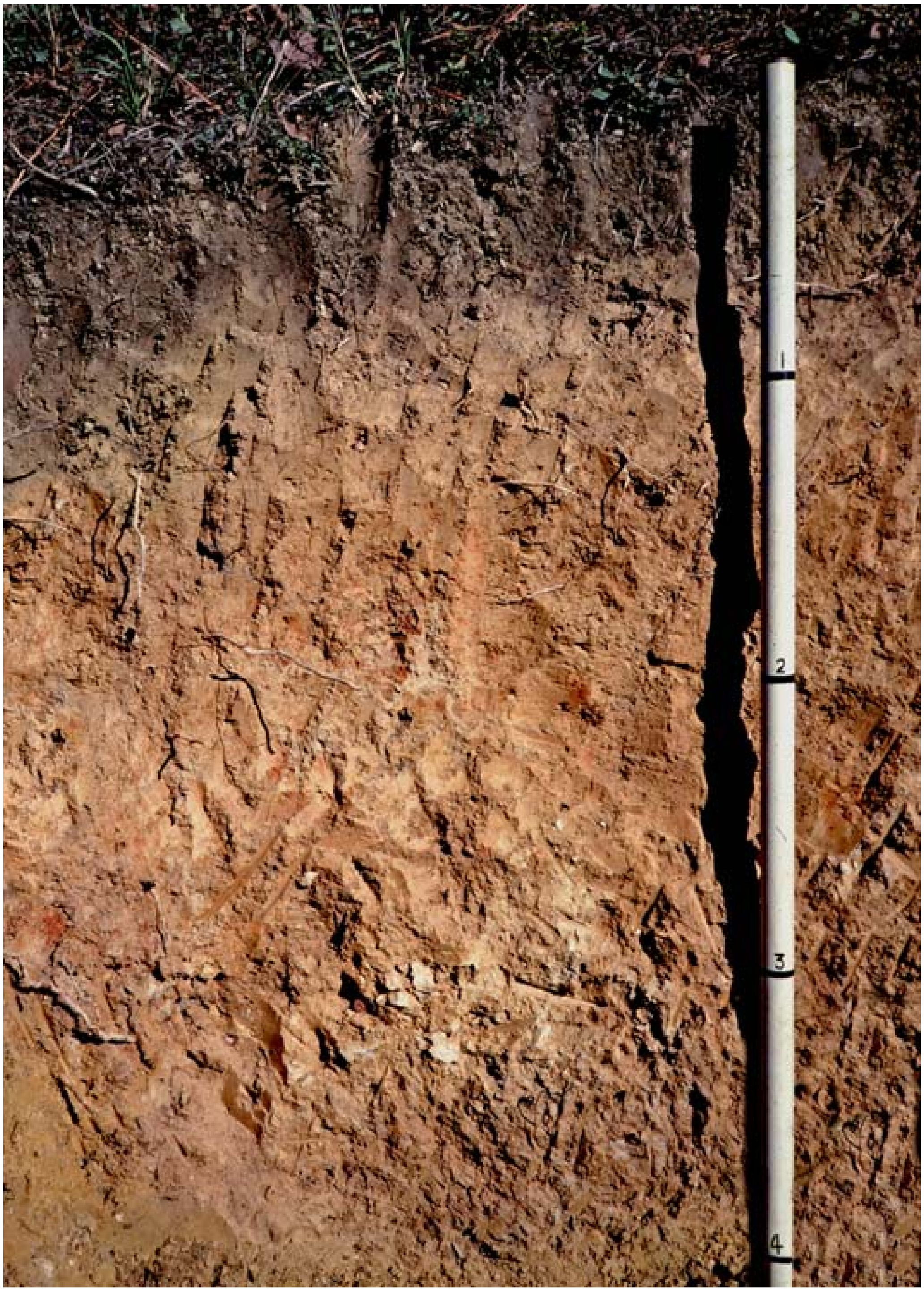


Figure 7.—A profile of an Altavista soil. These moderately well drained, very deep soils are derived from alluvium and occur on stream terraces. Wetness and flooding are limitations in areas of the Altavista soils.

roots; very few faint clay films on all faces of peds, few distinct clay films between sand grains, and common distinct clay bridges between sand grains; common medium distinct yellowish red (5YR 5/8) masses of oxidized iron; common medium distinct light gray (10YR 7/2) iron depletions; very strongly acid; clear smooth boundary.

C—40 to 65 inches; yellowish brown (10YR 5/6) sandy clay loam; massive; friable, nonsticky, nonplastic; common medium distinct light gray (10YR 7/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: 120 inches or more
Rock fragments: 0 to 5 percent in the A, Ap, E, and Bt horizons; 0 to 50 percent in the C horizon
Reaction: Extremely acid to moderately acid

A horizon (where present):
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—1 to 4
Texture—loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—5 to 7
Chroma—3 to 8
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—variable and stratified sand or loamy sediments

Cg horizon (where present):
Hue—hue of 7.5YR to 2.5Y; or is neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—variable and stratified sand or loamy sediments

Appomattox Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Colluvium and/or alluvium over residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Cecil soils, which have a high water table below a depth of 60 inches and are in landscape positions similar to those of the Appomattox soils
- Cullen soils, which have a high water table below a depth of 60 inches and are in landscape positions similar to those of the Appomattox soils
- Mattaponi soils, which have yellower colors than the Appomattox soils and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Oxyaquic Hapludults

Typical Pedon

Appomattox gravelly sandy loam, in an area of Appomattox-Cullen complex, 2 to 7 percent slopes; located in a forested area, about 0.75 mile east of Oakville on Highway VA-608 and 0.5 mile north-northwest (316 degrees) of the junction of Highways VA-657 and VA-608.

Ap—0 to 6 inches; brown (7.5YR 4/4) gravelly sandy loam; weak coarse subangular blocky structure and weak coarse angular blocky; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 27 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt1—6 to 9 inches; red (2.5YR 4/6) clay loam; weak fine, medium, and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; very few distinct clay films on all faces of peds; 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt2—9 to 36 inches; red (2.5YR 4/6) clay; weak fine and medium subangular blocky structure; friable, very sticky, moderately plastic; common fine, medium, and coarse roots; common distinct clay films on all faces of peds; 10 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Bt3—36 to 49 inches; red (2.5YR 4/6) clay; moderate thin platy structure; firm, slightly sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; common medium and coarse distinct dark red (10R 3/6) and prominent yellowish brown (10YR 5/8) masses of oxidized iron; common medium and coarse prominent very pale brown (10YR 7/4) iron depletions; 10 percent subrounded quartz gravel; strongly acid; clear smooth boundary.

Bt4—49 to 80 inches; red (2.5YR 4/6) clay; moderate thin platy structure; firm, slightly sticky, slightly plastic; few fine roots; common faint clay films on all faces of peds; common medium and coarse distinct dark red (10R 3/6) and prominent yellowish brown (10YR 5/8) masses of oxidized iron; common medium and coarse distinct light gray (10YR 7/2) iron depletions; 10 percent subrounded quartz gravel; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to soft bedrock: 60 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A and E horizons; 0 to 35 percent in the upper part of the Bt horizon; 0 to 60 percent in the lower part of the Bt horizon and in the C horizon
Reaction: Very strongly acid to moderately acid

A horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5

Chroma—1 to 6
Texture—sandy loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—1 to 6
Texture—sandy loam in the fine-earth fraction; clay loam in eroded areas

Bt horizon:
Hue—10R or 2.5YR
Value—3 to 5
Chroma—6 or 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

C horizon (where present):
Hue—10R to 10YR
Value—3 to 8
Chroma—1 to 8
Texture—loamy or clayey in the fine-earth fraction

Batteau Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is more developed than that of the Batteau soils and are in slightly higher terrace positions
- Wingina soils, which do not have redoximorphic features in the upper part of the subsoil and are in the higher flood plain positions
- Yogaville soils, which have a gray subsoil and are in the lower flood plain positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Hapludolls

Typical Pedon

Batteau loam, 0 to 2 percent slopes, frequently flooded; located in an area of pasture, about 1.3 miles north-northeast (5 degrees) of the junction of Highways VA-605 and VA-624 and 1.8 miles west (270 degrees) of the junction of Highways VA-605 and VA-623.

A—0 to 13 inches; dark brown (10YR 3/3) loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; many fine and medium roots; few fine mica flakes; neutral; abrupt smooth boundary.

Bw1—13 to 32 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; common medium distinct yellowish brown (10YR 5/4) masses of oxidized iron on faces of peds; common medium distinct gray (10YR 6/1) iron depletions on faces of peds; few fine mica flakes; neutral; clear smooth boundary.

Bw2—32 to 60 inches; yellowish brown (10YR 5/6) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; many medium distinct gray (10YR 5/1) iron depletions on faces of peds; few fine mica flakes; slightly acid; clear smooth boundary.

Bg—60 to 72 inches; gray (10YR 5/1) sandy loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium distinct yellowish red (5YR 5/6) masses of oxidized iron on faces of peds; few fine mica flakes; slightly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A, Bw, and Bg horizons; content may range to 60 percent in the Bw, Bg, and C horizons below a depth of 40 inches
Reaction: Moderately acid to neutral

A horizon:
Hue—7.5YR to 2.5Y
Value—3
Chroma—2 to 4
Texture—loam

Ap horizon (where present):
Hue—7.5YR or 10YR
Value—3
Chroma—2 to 4
Texture—loam

Bw horizon:
Hue—7.5YR to 2.5Y
Value—3 to 7
Chroma—3 to 6
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bg horizon:
Hue—7.5YR to 2.5Y; or neutral in hue and has value of 3 to 7
Value—3 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam in the fine-earth fraction

C horizon (where present):
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—sand to clay loam in the fine-earth fraction

Cg horizon:
Hue—7.5YR to 2.5Y; or is neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—sand to clay loam in the fine-earth fraction

Beckham Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from marble

Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Appomattox soils, which developed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Beckham soils
- Cecil soils, which formed in felsic rock residuum and are in landscape positions similar to those of the Beckham soils
- Cullen soils, which formed in mixed mafic and felsic rock residuum and are in landscape positions similar to those Beckham soils
- Mattaponi soils, which formed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Beckham soils
- Mayodan soils, which developed in residuum derived from quartzite and are in landscape positions similar to those of the Beckham soils
- Louisburg soils, which have less clay in the subsoil than the Beckham soils, have bedrock at a depth of 40 inches or more, and are on the steeper slopes

Taxonomic Classification

Fine, kaolinitic, thermic Rhodic Paleudults

Typical Pedon

Beckham clay loam, 2 to 7 percent slopes; located in an area of pasture, about 0.6 mile west-northwest (290 degrees) of the junction of Highways VA-667 and VA-605 and 1.3 miles north-northwest (322 degrees) of the junction of Highways VA-611 and VA-667.

Ap—0 to 7 inches; very dusky red (2.5YR 2.5/2) clay loam; strong medium granular structure; friable, moderately sticky, moderately plastic; many fine roots; few fine iron-manganese concretions; 2 percent angular quartz gravel; moderately acid; clear smooth boundary.

Bt1—7 to 27 inches; dark reddish brown (2.5YR 2.5/4) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine roots; many prominent clay films on all faces of peds; few fine iron-manganese concretions; 2 percent angular quartz gravel; moderately acid; gradual smooth boundary.

Bt2—27 to 47 inches; dark reddish brown (2.5YR 2.5/4) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine roots; many prominent clay films on all faces of peds; few fine iron-manganese concretions; 2 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Bt3—47 to 60 inches; dark reddish brown (2.5YR 2.5/4) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; many prominent clay films on all faces of peds; few fine iron-manganese concretions; 2 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Bt4—60 to 72 inches; dark reddish brown (2.5YR 2.5/4) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; common prominent clay films on all faces of peds; few fine iron-manganese concretions; 5 percent angular quartz gravel; very strongly acid.

Range in Characteristics

Solum thickness: 72 inches or more
Depth to soft bedrock: 60 inches or more

Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent quartzite gravel throughout the profile
Reaction: Very strongly acid to slightly acid throughout the profile

A horizon (where present):
Hue—2.5YR or 5YR
Value—2.5 or 3
Chroma—2 to 6
Texture—clay loam

Ap horizon:
Hue—2.5YR or 5YR
Value—2 or 3
Chroma—2 to 4
Texture—clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—2.5 or 3
Chroma—3 to 6
Texture—clay loam or clay

Cecil Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock (fig. 8)
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 15 percent

Associated Soils

- Appomattox soils, which formed in alluvium or colluvium underlain by residuum and are in landscape positions similar to those of the Cecil soils
- Cullen soils, which formed in residuum from mixed mafic and felsic crystalline rocks and are in landscape positions similar to those of the Cecil soils
- Louisburg soils, which have less clay in the subsoil than the Cecil soils, have bedrock at a depth of 40 inches or more, and are on the steeper slopes
- Mattaponi soils, which have iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Cecil soils
- Pacolet soils, which have a solum that is thinner than that of the Cecil soils and are in similar landscape positions

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Cecil sandy loam, 2 to 7 percent slopes; located in an area of pasture, about 1.0 mile east-northeast (59 degrees) of the junction of Highways VA-606 and VA-652 and 100 feet southeast of the Transco Pipe Line.

Ap—0 to 9 inches; strong brown (7.5YR 5/6) sandy loam; moderate fine and medium granular structure; friable, slightly sticky, slightly plastic; many fine roots; few fine mica flakes; 10 percent angular quartz gravel; strongly acid; abrupt smooth boundary.

Figure 8.—A profile of a Cecil soil. These well drained, very deep soils are derived from felsic crystalline rock and occur on hillslopes. Cecil soils have few limitations.

Bt1—9 to 16 inches; red (2.5YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; common distinct clay films on all faces of peds; common fine mica flakes; 2 percent angular quartz gravel; very strongly acid; gradual smooth boundary.

Bt2—16 to 33 inches; red (2.5YR 4/6) clay; strong fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; many fine and medium roots; common distinct clay films on all faces of peds; common fine mica flakes; 1 percent angular quartz gravel; strongly acid; gradual smooth boundary.

Bt3—33 to 50 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; common fine mica flakes; 2 percent angular quartz gravel; strongly acid; gradual wavy boundary.

BC—50 to 65 inches; red (2.5YR 4/6) clay loam; many coarse faint yellowish red (5YR 5/8) mottles; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; very few distinct clay films on all faces of peds; many fine mica flakes; 2 percent angular quartz gravel; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more

Depth to bedrock: 60 inches or more

Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 10 percent in the Bt, BC, and C horizons

Reaction: Very strongly acid to moderately acid in the A and Ap horizons; very strongly acid or strongly acid in the Bt, BC, and C horizons

A horizon (where present):

Hue—2.5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—sandy loam

Ap horizon:

Hue—2.5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—sandy loam

Bt horizon:

Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture—clay or clay loam

BC horizon:

Hue—10R to 5YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, sandy clay loam, or loam

C horizon (where present):

Hue—2.5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—clay loam, sandy clay loam, loam, or sandy loam

Note: The Cecil soils in Appomattox County are considered taxadjuncts to the series because they do not generally meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Chewacla Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is older and better developed than that of the Chewacla soils and are in stream terrace positions
- Riverview soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions
- State soils, which have a subsoil that is older and better developed than that of the Chewacla soils and are in stream terrace positions
- Wehadkee soils, which have a gray subsoil and are in similar flood plain positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Chewacla loam, 0 to 2 percent slopes, frequently flooded; located in a forested area, about 216 yards east-northeast (48 degrees) of the junction of Highways VA-627 and VA-616 and 1.4 miles north-northeast (5 degrees) of the junction of Highways VA-639 and VA-632.

A—0 to 3 inches; dark brown (10YR 3/3) loam; weak fine and medium granular structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.

Bw1—3 to 13 inches; dark yellowish brown (10YR 4/4) sandy loam; weak coarse platy structure parting to weak fine, medium, and coarse subangular blocky; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.

Bw2—13 to 24 inches; brown (10YR 4/3) loam; weak coarse platy structure parting to weak fine, medium, and coarse subangular blocky; friable, slightly sticky, nonplastic; many fine and medium and common coarse roots; few medium faint grayish brown (10YR 5/2) iron depletions; strongly acid; gradual smooth boundary.

Bg—24 to 45 inches; grayish brown (10YR 5/2) sandy loam; weak coarse platy structure parting to moderate fine and medium subangular blocky; friable, slightly sticky, slightly plastic; few fine and medium roots; many medium distinct dark reddish brown (5YR 3/3) and black (10YR 2/1) iron-manganese masses; 5 percent iron-manganese nodules; strongly acid; clear smooth boundary.

Cg—45 to 65 inches; grayish brown (10YR 5/2) very gravelly sandy loam; massive; firm; many medium distinct dark reddish brown (5YR 3/3) and black (10YR 2/1) iron-manganese masses; 5 percent iron-manganese nodules, 10 percent rounded phyllite gravel, and 20 percent rounded quartz gravel; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches
Depth to bedrock: 60 inches or more

Rock fragments: 0 to 5 percent in the A horizon and the upper part of the Bw horizon; 0 to 15 percent in the lower part of the Bw horizon; 0 to 80 percent in the C and 2C horizons below a depth of 40 inches
Reaction: Very strongly acid to slightly acid to a depth of 40 inches; very strongly acid to slightly alkaline below a depth of 40 inches

A horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam

Ap horizon (where present):
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—loam

Bw horizon:
Hue—5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Bg horizon:
Hue—10YR or 2.5Y; or neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Hue—10YR or 2.5Y; or neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—sand to clay in the fine-earth fraction

Cullen Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep (fig. 9)
Slope range: 2 to 15 percent

Associated Soils

- Appomattox soils, which have iron and manganese depletions and masses in the subsoil and are in landscape positions similar to those of the Cullen soils
- Cecil soils, which formed in felsic crystalline rocks and are in landscape positions similar to those of the Cullen soils
- Mecklenburg soils, which have a solum that is thinner than that of the Cullen soils and are on the steeper slopes

Figure 9.—A profile of a Cullen soil. These well drained, very deep soils are derived from mafic rock and occur on hillslopes. Cullen soils have few limitations.

• Pacolet soils, which have a solum that is thinner than that of the Cullen soils and are on the steeper side slopes

Taxonomic Classification

Very-fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Cullen clay loam in an area of Appomattox-Cullen complex, 2 to 7 percent slopes; located in an area of woodland, about 0.75 mile east of Oakville on Highway VA-608 and 700 feet north of Westvaco logging road.

Ap—0 to 9 inches; reddish brown (5YR 4/4) clay loam; moderate fine angular blocky structure; friable, moderately sticky, moderately plastic; many fine roots; 10 percent rounded quartz gravel; strongly acid; abrupt smooth boundary.

Bt1—9 to 29 inches; dark red (2.5YR 3/6) clay; strong fine and medium angular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; common distinct clay films on all faces of peds; 1 percent rounded quartz gravel; strongly acid; gradual smooth boundary.

Bt2—29 to 42 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; common distinct clay films on all faces of peds; strongly acid; gradual smooth boundary.

Bt3—42 to 52 inches; red (2.5YR 4/6) clay; common fine distinct strong brown (7.5YR 5/6) mottles; moderate fine and medium angular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; few distinct clay films on all faces of peds; few fine mica flakes; strongly acid; clear smooth boundary.

Bt4—52 to 65 inches; red (2.5YR 4/6) clay; many fine and medium distinct strong brown (7.5YR 5/6) mottles; moderate fine and medium angular blocky structure; friable, moderately sticky, slightly plastic; few distinct clay films on all faces of peds; few fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid or moderately acid

A horizon (where present):
Hue—5YR to 10YR
Value—3 to 5; value of 3 restricted to horizons less than 4 inches thick
Chroma—2 to 8
Texture—fine sandy loam or loam

Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—2 to 8
Texture—clay loam

Bt horizon:
Hue—10R or 2.5YR
Value—3 to 5
Chroma—4 to 8
Texture—clay loam, silty clay loam, silty clay, or clay

C horizon (where present):
Hue—10R to 10YR
Value—3 to 6

Chroma—4 to 8
Texture—loam, silt loam, or clay loam

Iredell Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock (fig. 10)
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Low
Depth class: Deep
Slope range: 2 to 15 percent

Associated Soils

- Louisburg soils, which have a shallower solum than the Iredell soils and are in similar landscape positions
- Mecklenburg soils, which have a subsoil that is redder than that of the Iredell soils and are in similar landscape positions
- Poindexter soils, which have a solum that is shallower than that of the Iredell soils and are in similar landscape positions

Taxonomic Classification

Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs

Typical Pedon

Iredell loam, 2 to 7 percent slopes; located in an area of pasture, about 833 yards east-southeast (97 degrees) of the junction of Highways VA-604 and VA-727 and 1.6 miles east-northeast (59 degrees) of the junction of Highways VA-679 and VA-604.

Ap—0 to 5 inches; dark yellowish brown (10YR 4/4) loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and medium roots; 5 percent angular quartz gravel and 5 percent angular schist channers; strongly acid; gradual smooth boundary.
Btss—5 to 23 inches; yellowish brown (10YR 5/6) clay; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; very firm, very sticky, very plastic; many fine, medium, and coarse roots; common distinct slickensides (pedogenic) and common prominent clay films on all faces of peds; slightly acid; clear smooth boundary.
C—23 to 43 inches; yellowish brown (10YR 5/6), very pale brown (10YR 8/3), and dark olive gray (5Y 3/2) silt loam; massive; friable, moderately sticky, slightly plastic; few fine and medium roots; neutral; clear smooth boundary.
Cr—43 to 63 inches; dark olive gray (5Y 3/2), yellowish brown (10YR 5/6), and very pale brown (10YR 8/3) slightly weathered chloritic schist bedrock.
R—63 to 73 inches; hard chloritic schist bedrock.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to soft bedrock: 40 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the Ap and Bt horizons; 0 to 10 percent in the C horizon
Reaction: Strongly acid to neutral in the A and Ap horizons; moderately acid to slightly alkaline in the Bt horizon; neutral to moderately alkaline in the C horizon

Figure 10.—A profile of an Iredell soil. These moderately well drained, deep soils are derived from mafic rock and occur on hillslopes. Wetness and the shrink-swell potential are limitations in areas of the Iredell soils.

A horizon (where present):
Hue—10YR to 5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam

Ap horizon:
Hue—10YR to 5Y
Value—4 or 5
Chroma—2 to 4
Texture—loam

Btss horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture—silty clay or clay

C horizon:
Hue—10YR to 5Y; or neutral in hue and has value of 4 to 8
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, silt loam, loam, or sandy clay loam

Cr horizon (where present):
Hue—10YR to 5Y; or neutral in hue and has value of 4 to 8
Value—4 to 8
Chroma—1 to 8
Texture—weathered mafic rocks that crush easily to sandy loam, sandy clay loam, silt loam, or loam

Note: Some pedons of the Iredell soils in Appomattox County have more clay in the Bt horizon than is allowed in the range of characteristics for the series. This difference, however, does not significantly affect the use and management of the soils.

Louisburg Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: High
Depth class: Moderately deep
Slope range: 2 to 50 percent

Associated Soils

- Beckham soils, which have more clay in the subsoil than the Louisburg soils, are on adjacent landforms, and formed in marble residuum
- Cecil soils, which have a solum that is deeper than that of the Louisburg soils and are in similar landscape positions
- Iredell soils, which have more clay in the subsoil than the Louisburg soils and are in similar landscape positions
- Mayodan soils, which are deeper to bedrock than the Louisburg soils and are on adjacent landforms

- Mecklenburg soils, which are deeper to bedrock than the Louisburg soils and are in similar landscape positions
- Pacolet soils, which have more clay in the subsoil than the Louisburg soils and are in the less sloping landscape positions
- Poindexter soils, which developed in residuum derived from mixed mafic and felsic crystalline rock and are in landscape positions similar to those of the Louisburg soils
- Wedowee soils, which have more clay in the subsoil than the Louisburg soils and are in the less sloping landscape positions

Taxonomic Classification

Coarse-loamy, mixed, semiactive, thermic Ruptic-Ultic Dystrudepts

Typical Pedon

Louisburg gravelly coarse sandy loam, in an area of Pacolet-Louisburg complex, 7 to 15 percent slopes; located in a forested area, about 0.6 mile south-southwest (212 degrees) of the junction of Highways VA-617 and VA-626 and 1.6 miles east-northeast (46 degrees) of the junction of Highways VA-617 and VA-618.

A—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly coarse sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 20 percent gravel; very strongly acid; clear smooth boundary.

E—4 to 13 inches; yellowish brown (10YR 5/4) gravelly coarse sandy loam; massive; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 20 percent gravel; very strongly acid; gradual wavy boundary.

Bw/Bt—13 to 28 inches; 60 percent brownish yellow (10YR 6/6) gravelly sandy loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; 20 percent gravel; very strongly acid; 40 percent lenses and irregular shaped bodies of yellowish brown (10YR 5/8) gravelly sandy clay loam having moderate medium subangular blocky structure and common distinct clay films on faces of peds; diffuse smooth boundary.

Cr—28 to 72 inches; strong brown (7.5YR 5/6) and brownish yellow (10YR 6/6) slightly weathered granite bedrock.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A, E, Bw, and Bt horizons; 15 to 50 percent in the C horizon
Reaction: Very strongly acid to moderately acid

A horizon:
Hue—10YR or 2.5Y
Value—3 to 5
Chroma—2 or 3
Texture—coarse sandy loam in the fine-earth fraction

Ap horizon (where present):
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—2 or 4
Texture—coarse sandy loam in the fine-earth fraction

E horizon:
Hue—7.5YR to 2.5Y

Value—5 or 6
Chroma—4 or 6
Texture—coarse sandy loam or sandy loam in the fine-earth fraction

Bw and Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—3 to 8
Texture (Bw part)—coarse sandy loam or sandy loam in the fine-earth fraction
Texture (Bt part)—sandy loam or sandy clay loam in the fine-earth fraction

C horizon (where present):
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—coarse sandy loam or sandy loam in the fine-earth fraction

Cr horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—1 to 8
Texture—weathered felsic crystalline rock

Manteo Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum from mica schist
Drainage class: Somewhat excessively drained
Slowest saturated hydraulic conductivity: High
Depth class: Shallow
Slope range: 2 to 60 percent

Associated Soils

- Tatum soils, which have more clay in the subsoil than the Manteo soils and are in the less sloping landscape positions
- Nason soils, which have more clay in the subsoil than the Manteo soils and are in the less sloping landscape positions

Taxonomic Classification

Loamy-skeletal, mixed, semiactive, thermic Lithic Dystrudepts

Typical Pedon

Manteo very channery loam, 25 to 60 percent slopes; located in a forested area, about 2.6 miles east-southeast (97 degrees) of the junction of Highways VA-639 and VA-632 and 2.1 miles south-southwest (252 degrees) of the junction of Highways VA-617 and VA-618.

A—0 to 2 inches; dark yellowish brown (10YR 4/4) very channery loam; weak fine and medium angular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 40 percent schist channers; very strongly acid; clear smooth boundary.

AB—2 to 7 inches; yellowish brown (10YR 5/6) very channery loam; weak fine and medium angular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 55 percent schist channers; very strongly acid; clear wavy boundary.

Bw—7 to 14 inches; brown (7.5YR 4/4) very channery clay loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine, medium, and coarse roots; 45 percent schist channers; strongly acid; many medium prominent clay flows in old rock fractures; gradual smooth boundary.

R—14 inches; hard sericite schist bedrock.

Range in Characteristics

Solum thickness: 10 to 20 inches
Depth to hard bedrock: 10 to 20 inches (fig. 11)
Rock fragments: 35 to 60 percent in the A and Ap horizons; 35 to 80 percent in the Bw and C horizons
Reaction: Extremely acid to strongly acid

A horizon:
Hue—10YR or 2.5Y
Value—3 or 4
Chroma—2 to 4
Texture—loam in the fine-earth fraction

Ap horizon (where present):
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—loam in the fine-earth fraction

AB horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—loam or silt loam in the fine-earth fraction

Bw horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or clay loam in the fine-earth fraction

C horizon (where present):
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or clay loam in the fine-earth fraction

Mattaponi Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Alluvium and/or colluvium over residuum weathered from igneous and metamorphic rock
Drainage class: Moderately well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep (fig. 12)
Slope range: 2 to 15 percent

Figure 11.—A profile of a Manteo soil. These somewhat excessively drained, shallow soils are derived from sericite schist and occur on hillslopes. Depth to bedrock is a limitation in areas of the Manteo soils.

Figure 12.—A profile of a Mattaponi soil. These moderately well drained, very deep soils are derived from old colluvium and occur on broad hillslopes. Wetness is a limitation in areas of the Mattaponi soils.

Associated Soils

- Appomattox soils, which have redder colors than the Mattaponi soils and are in similar landscape positions
- Cecil soils, which do not have gray iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Mattaponi soils
- Cullen soils, which do not have gray iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the Mattaponi soils

Taxonomic Classification

Fine, mixed, subactive, thermic Oxyaquic Hapludults

Typical Pedon

Mattaponi sandy loam, in an area of Mattaponi-Cecil complex, 2 to 7 percent slopes; located in a cultivated area, about 2.0 miles east-southeast (99 degrees) of the junction of Highways VA-649 and VA-603 and 1.5 miles north-northwest (354 degrees) of the junction of Highways VA-649 and VA-644.

Ap—0 to 9 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; friable; many fine and medium roots; 10 percent subrounded quartz gravel; very strongly acid; clear smooth boundary.

Bt1—9 to 38 inches; strong brown (7.5YR 5/6) clay loam; weak medium and coarse subangular blocky structure; friable, moderately sticky, slightly plastic; common fine and medium roots; many distinct clay films on all faces of peds; 10 percent subrounded quartz gravel; very strongly acid; gradual smooth boundary.

Bt2—38 to 45 inches; strong brown (7.5YR 5/6) clay; weak medium platy structure parting to weak medium subangular blocky; friable, moderately sticky, slightly plastic; common fine roots; many distinct clay films on all faces of peds; many medium prominent red (2.5YR 4/8) iron-manganese masses; strongly acid; gradual smooth boundary.

Bt3—45 to 65 inches; strong brown (7.5YR 5/6) clay; weak medium platy structure parting to moderate medium and coarse subangular blocky; friable, moderately sticky, slightly plastic; many distinct clay films on all faces of peds; many medium prominent pinkish gray (7.5YR 7/2) iron depletions; 5 percent angular quartz gravel; strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A, Ap, and E horizons; 0 to 35 percent in the Bt horizon; 0 to 50 percent in the C horizon
Reaction: Very strongly acid or strongly acid

A horizon (where present):
Hue—5YR to 2.5Y
Value—2 to 7; value of 3 occurs only where horizon less than 4 inches thick
Chroma—2 to 8
Texture—sandy loam

Ap horizon:
Hue—5YR to 2.5Y
Value—2 to 7; value of 3 occurs only where horizon less than 4 inches thick
Chroma—2 to 8
Texture—sandy loam

Bt horizon:
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

C horizon (where present):
Hue—7.5YR to 2.5Y
Value—4 to 8
Chroma—3 to 8
Texture—stratified sand to clay in the fine-earth fraction

Mayodan Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from quartzite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Beckham soils, which formed in residuum derived from marble and are in landscape positions similar to those of the Mayodan soils
- Louisburg soils, which have a solum that is thinner than that of the Mayodan soils and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Mayodan gravelly sandy loam, 2 to 7 percent slopes; located in a forested area, about 0.6 mile northwest of the junction of Highways VA-605 and VA-721 and 0.7 mile southeast of the junction of Highway VA-721 and the James River.

Ap—0 to 7 inches; strong brown (7.5YR 5/6) gravelly sandy loam; weak medium subangular blocky structure; friable; many fine, medium, and coarse roots; 20 percent angular gravel; strongly acid; clear smooth boundary.

Bt—7 to 45 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; common fine and medium roots; many distinct clay films on all faces of peds; 5 percent angular gravel; strongly acid; gradual wavy boundary.

C—45 to 61 inches; red (2.5YR 4/6) sandy clay loam; massive; friable, slightly sticky, nonplastic; strongly acid; many medium prominent strong brown (7.5YR 5/8) highly weathered rock fragments.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A and Ap horizons; 0 to 5 percent in the Bt and C horizons
Reaction: Very strongly acid to moderately acid in the A and Ap horizons and the upper part of the Bt horizon; very strongly acid or strongly acid in the lower part of the Bt horizon and in the C horizon

A horizon (where present):
Hue—5YR to 2.5Y
Value—2 to 6
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Ap horizon:
Hue—5YR to 2.5Y
Value—2 to 6
Chroma—2 to 8
Texture—sandy loam in the fine-earth fraction

Bt horizon:
Hue—2.5YR to 7.5YR
Value—4 to 6
Chroma—3 to 8
Texture—clay loam or clay

C horizon:
Hue—2.5YR to 10YR
Value—3 to 6
Chroma—2 to 8
Texture—loam, sandy clay loam, or clay loam

Note: The Mayodan soils in Appomattox County differ from what is defined for the series because they formed in residuum material rather than Triassic material. Triassic materials are not recognized in Appomattox County. This difference, however, does not significantly affect the use and management of the soils.

Mecklenburg Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately low
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Cullen soils, which have a solum that is thicker than that of the Mecklenburg soils and are in similar landscape positions
- Iredell soils, which have gray colors and are in landscape positions similar to those of the Mecklenburg soils
- Louisburg soils, which have a solum that is shallower than that of the Mecklenburg soils and are in similar landscape positions
- Poindexter soils, which have less clay in the subsoil than the Mecklenburg soils and are in similar landscape positions

Taxonomic Classification

Fine, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Mecklenburg loam, 2 to 7 percent slopes; located in a cultivated area, about 700 yards south-southeast (169 degrees) of the junction of Highways VA-727 and VA-641 and 1.1 miles east-southeast (121 degrees) of the junction of Highways VA-719 and VA-691.

Ap—0 to 4 inches; reddish brown (5YR 4/4) loam; weak medium and coarse subangular blocky structure; friable, nonsticky, nonplastic; many fine roots; 10 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

Bt1—4 to 30 inches; red (2.5YR 4/6) clay; moderate medium and coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; many distinct clay films on all faces of peds; many medium prominent black (N 2.5/) manganese masses; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.

Bt2—30 to 39 inches; yellowish red (5YR 5/8) clay; weak medium and coarse subangular blocky structure; friable, moderately sticky, slightly plastic; many distinct clay films on all faces of peds; many fine prominent black (N 2.5/) manganese masses; 5 percent angular quartz gravel; moderately acid; gradual smooth boundary.

BC—39 to 50 inches; yellowish red (5YR 5/8) and reddish yellow (7.5YR 6/6) loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; many medium prominent black (N 2.5/) manganese masses; 5 percent angular quartz gravel; moderately acid; abrupt smooth boundary.

C—50 to 65 inches; brownish yellow (10YR 6/6), reddish yellow (5YR 6/6), and red (2.5YR 5/6) loam; massive; friable, slightly sticky, slightly plastic; many medium prominent black (N 2.5/) manganese masses; 10 percent angular quartz gravel; moderately acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 10 percent in the Bt and C horizons
Reaction: Strongly acid to slightly acid in the A and Ap horizons; moderately acid to neutral in the Bt and C horizons

A horizon (where present):
Hue—2.5YR to 7.5YR
Value—3 to 6
Chroma—2 to 6
Texture—sandy loam, fine sandy loam, or loam

Ap horizon:
Hue—2.5YR to 7.5YR
Value—3 to 6
Chroma—2 to 6
Texture—loam

Bt horizon:
Hue—2.5YR or 5YR
Value—4 to 6
Chroma—4 to 8
Texture—clay

BC horizon:
Hue—2.5YR to 7.5YR; often variegated in these colors
Value—4 to 7
Chroma—4 to 8
Texture—loam, sandy clay loam, clay loam, silt loam, or silty clay loam

C horizon:
Hue—2.5YR to 10YR
Value—3 to 8
Chroma—1 to 8
Texture—loam, silt loam, clay loam, or silty clay loam

Nason Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from schist and/or phyllite
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Deep
Slope range: 2 to 25 percent

Associated Soils

- Manteo soils, which are shallower to bedrock than the Nason soils and are in similar landscape positions
- Tatum soils, which have a subsoil that is redder than that of the Nason soils and are in similar landscape positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Nason gravelly loam, 2 to 7 percent slopes; located in a forested area, about 480 yards southwest (214 degrees) of the junction of Highways VA-645 and VA-679 and 0.7 mile west-northwest (291 degrees) of the junction of Highways VA-604 and VA-645.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) gravelly loam; weak fine and medium subangular blocky structure; friable, nonsticky, nonplastic; many fine, medium, and coarse roots; 25 percent gravel; very strongly acid; clear smooth boundary.

E—4 to 12 inches; yellowish brown (10YR 5/4) gravelly loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; 15 percent gravel; very strongly acid; clear smooth boundary.

Bt—12 to 45 inches; strong brown (7.5YR 5/6) clay; common medium prominent red (2.5YR 4/8) mottles; moderate fine and medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine and medium roots; common distinct clay films on all faces of peds; 10 percent channers; very strongly acid; gradual smooth boundary.

Cr—45 to 63 inches; weathered sericite schist.

R—63 inches; hard sericite schist bedrock.

Range in Characteristics

Solum thickness: 25 to 50 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: 60 inches or more
Rock fragments: 15 to 35 percent in the A, Ap, and E horizons; 0 to 35 percent in the Bt horizon; 15 to 40 percent in the C horizon
Reaction: Very strongly acid or strongly acid

A horizon (where present):
Hue—7.5YR or 10YR
Value—2 to 5; value of 2 and 3 occur only where horizon less than 6 inches thick
Chroma—2 to 4
Texture—fine sandy loam, loam, or silt loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 6
Texture—loam in the fine-earth fraction

E horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—2 to 6
Texture—fine sandy loam, loam, or silt loam in the fine-earth fraction

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, silty clay loam, silty clay, or clay in the fine-earth fraction

C horizon (where present):
Hue—2.5YR to 10YR
Value—2 to 7
Chroma—1 to 8
Texture—silt loam, clay loam, or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—2.5YR to 10YR
Value—2 to 7
Chroma—1 to 8
Texture—weathered sericite schist

Note: Some pedons of the Nason soils in Appomattox County have less silt in the Bt horizon and more clay in the C horizon than is allowed in the range of characteristics of the series. These differences, however, do not significantly affect the use and management of the soils.

Pacolet Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Cecil soils, which have a solum that is thicker than that of the Pacolet soils and are in similar landscape positions
- Cullen soils, which have a solum that is thicker than that of the Pacolet soils and are in similar landscape positions

- Louisburg soils, which have less clay than the Pacolet soils and are in similar landscape positions
- Wedowee soils, which have a subsoil that is yellower than that of the Pacolet soils and are in similar landscape positions

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Pacolet sandy loam, in an area of Pacolet-Louisburg complex, 7 to 15 percent slopes; located in a cultivated area, about 1.4 miles northeast (85 degrees) of the junction of Highways VA-667 and VA-608 and 1.6 miles southwest (262 degrees) of the junction of Highways VA-665 and VA-608.

Ap—0 to 7 inches; brown (7.5YR 5/4) sandy loam; weak fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; 10 percent gravel; very strongly acid; clear smooth boundary.

Bt1—7 to 23 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; many distinct clay films on all faces of peds; 10 percent gravel; strongly acid; gradual wavy boundary.

Bt2—23 to 29 inches; red (2.5YR 4/6) clay; many medium prominent reddish yellow (7.5YR 7/8) mottles; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many distinct clay films on all faces of peds; 10 percent gravel; strongly acid; gradual wavy boundary.

C1—29 to 50 inches; red (2.5YR 4/6), yellowish brown (10YR 5/6), and yellowish red (5YR 4/6) loam; massive; friable, slightly sticky, nonplastic; 10 percent gravel; very strongly acid; gradual smooth boundary.

C2—50 to 64 inches; yellowish brown (10YR 5/6), red (2.5YR 4/8), and strong brown (7.5YR 5/6) loam; massive; friable, slightly sticky, nonplastic; 10 percent gravel; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 30 inches
Depth to soft bedrock: 60 inches or more
Depth to hard bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Very strongly acid to slightly acid in the A and Ap horizons; very strongly acid to moderately acid in the Bt and C horizons

A horizon (where present):
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—sandy loam

Ap horizon:
Hue—5YR to 10YR
Value—3 to 5
Chroma—1 to 4
Texture—sandy loam; sandy clay loam or clay loam in eroded areas

Bt horizon:
Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8

Texture—clay loam, sandy clay, or clay

C horizon:
Hue—2.5YR or 5YR
Value—4 or 5
Chroma—6 or 8
Texture—sandy loam or loam

Note: The Pacolet soils in Appomattox County are considered taxadjuncts to the series because they do not generally meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Poindexter Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Moderately deep
Slope range: 2 to 60 percent

Associated Soils

- Iredell soils, which have more clay in the subsoil than the Poindexter soils and are in similar landscape positions
- Louisburg soils, which developed in residuum derived from felsic crystalline rock and are in landscape positions similar to those of the Poindexter soils
- Mecklenburg soils, which have more clay in the subsoil than the Poindexter soils and are in similar landscape positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Poindexter gravelly silt loam, 25 to 60 percent slopes; located in a forested area, about 2.7 miles north-northeast (42 degrees) of the junction of Highways VA-26 and US-60 and 1.7 miles north-northeast (5 degrees) of the junction of Highways VA-664 and VA-26.

Ap—0 to 7 inches; dark grayish brown (2.5Y 4/2) gravelly silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots; 30 percent gravel; strongly acid; clear smooth boundary.

Bt—7 to 21 inches; dark yellowish brown (10YR 4/4) silt loam; common medium distinct olive brown (2.5Y 4/4) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common distinct clay films on all faces of peds; 10 percent gravel; strongly acid; clear smooth boundary.

C—21 to 30 inches; olive brown (2.5Y 4/4), dark yellowish brown (10YR 4/6), greenish gray (5GY 6/1), and grayish green (5G 4/2) silt loam; massive; friable, slightly sticky, slightly plastic; 5 percent gravel; strongly acid; gradual smooth boundary.

Cr—30 to 51 inches; dark yellowish brown (10YR 4/6), greenish gray (5GY 6/1), olive brown (2.5Y 4/4), and grayish green (5G 4/2) weathered hornblende gneiss bedrock.

R—51 inches; hard hornblende gneiss bedrock.

Range in Characteristics

Solum thickness: 14 to 36 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to 60 inches
Rock fragments: 15 to 35 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons
Reaction: Strongly acid to neutral

A horizon (where present):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silt loam in the fine-earth fraction

Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—silt loam in the fine-earth fraction

Bt horizon:
Hue—5YR to 2.5Y
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy clay loam, silt loam, or clay loam in the fine-earth fraction

C horizon:
Hue—5YR to 5GY
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, loam, silt loam, sandy clay loam, or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—5YR to 5GY
Value—4 to 8
Chroma—1 to 8
Texture—weathered hornblende gneiss

Riverview Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium (fig. 13)
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is more developed than that of the Riverview soils and are in stream terrace positions
- Chewacla soils, which have gray mottles in the upper part of the subsoil and are in the lower flood plain positions
- State soils, which have a subsoil that is more developed than that of the Riverview soils and are in stream terrace positions

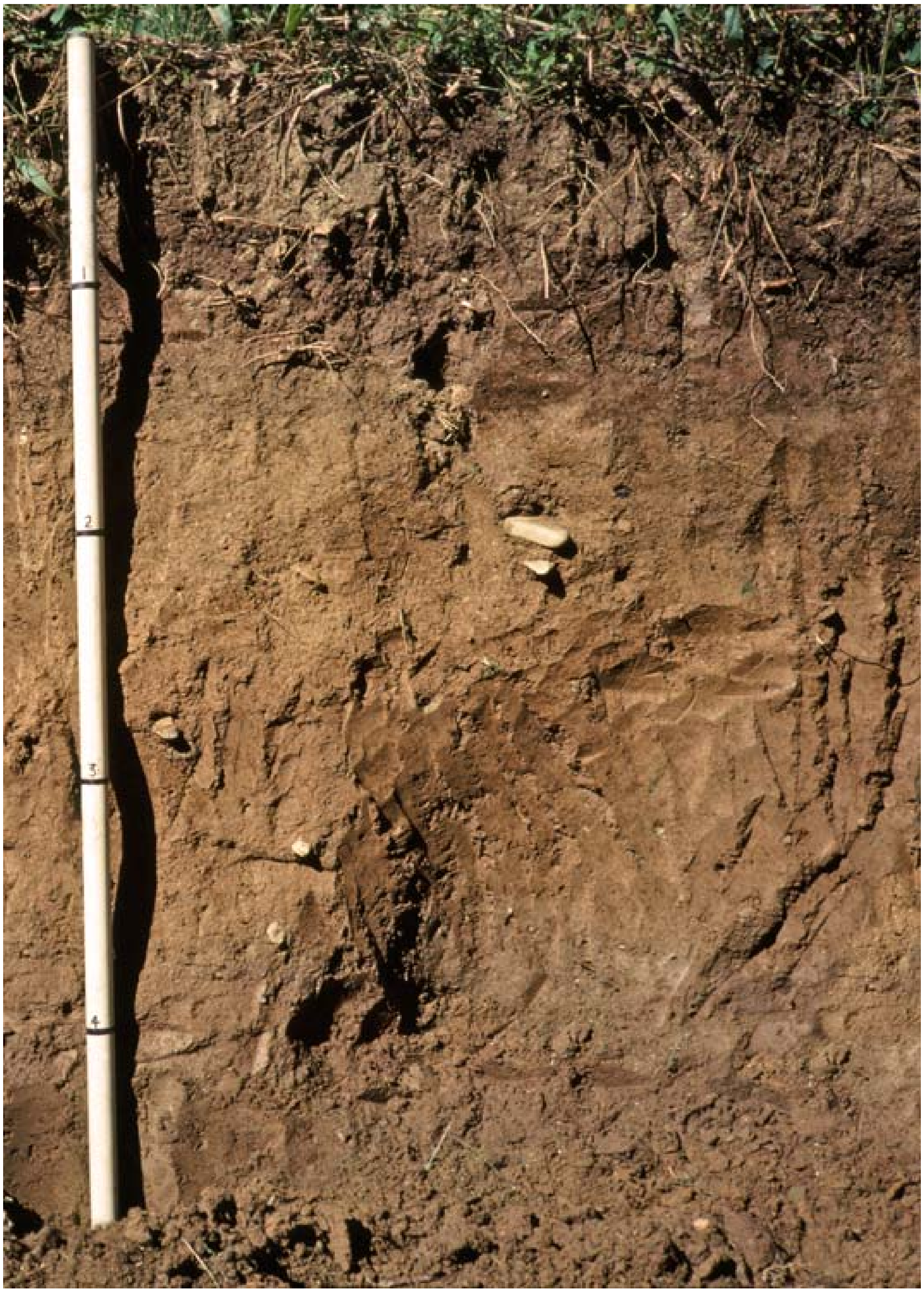


Figure 13.—A profile of a Riverview soil. These well drained, very deep soils are derived from alluvium and occur on flood plains other than those of the James River. These soils are very fertile, however, flooding is a limitation.

- Wehadkee soils, which have a gray subsoil and are in the lower flood plain positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluventic Dystrudepts

Typical Pedon

Riverview loam, 0 to 2 percent slopes, occasionally flooded; located in an area of pasture, 1.8 miles north-northwest (342 degrees) of the junction of Highways VA-639 and VA-627 and 2.4 miles east-northeast (58 degrees) of the junction of Highways VA-639 and VA-632.

Ap—0 to 6 inches; dark yellowish brown (10YR 3/4) loam; weak coarse granular structure; friable, nonsticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bw1—6 to 18 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; strongly acid; diffuse smooth boundary.

Bw2—18 to 38 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common fine roots; few medium distinct brown (7.5YR 4/4) iron-manganese masses; strongly acid; diffuse smooth boundary.

C—38 to 65 inches; very pale brown (10YR 7/4) sandy loam; massive; friable, nonsticky, nonplastic; few fine roots; many medium prominent black (10YR 2/1) manganese masses; many medium distinct yellowish brown (10YR 5/6) masses of oxidized iron; common fine mica flakes; strongly acid.

Range in Characteristics

Solum thickness: 24 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: Less than 1 percent
Reaction: Very strongly acid or strongly acid

A horizon (where present):
Hue—7.5YR or 10YR
Value—3 to 5; value of 3 occurs only where horizon less than 7 inches thick
Chroma—2 to 4
Texture—fine sandy loam, loam, or silt loam

Ap horizon:
Hue—7.5YR or 10YR
Value—3 to 5; value of 3 occurs only where horizon less than 7 inches thick
Chroma—2 to 4
Texture—loam

Bw horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—4 or 6
Texture—loam, sandy clay loam, or clay loam

C horizon:
Hue—7.5YR or 10YR
Value—4 to 8
Chroma—4 to 8
Texture—loamy sand, sandy loam, fine sandy loam, silt loam, or silty clay loam; stratified in some pedons

State Series

Physiographic province: Southern Piedmont
Landform: Stream terrace
Parent material: Recent alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have iron and manganese depletions in the lower part of the subsoil and are in landscape positions similar to those of the State soils
- Chewacla soils, which have iron and manganese depletions in the subsoil and are on adjacent flood plains
- Riverview soils, which have a subsoil that is less developed than that of the State soils and are in flood plain positions
- Wehadkee soils, which have iron and manganese depletions in the subsoil and are on adjacent flood plains

Taxonomic Classification

Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

State loam, 0 to 2 percent slopes, rarely flooded; located in an area of pasture, about 2.4 miles east-northeast (65 degrees) of the junction of Highways VA-639 and VA-632 and 2.5 miles west-northwest (283 degrees) of the junction of Highways VA-617 and VA-618.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) loam; weak medium granular structure; friable, slightly sticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bt1—6 to 20 inches; strong brown (7.5YR 4/6) sandy clay loam; weak medium and coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common distinct clay films on all faces of peds; strongly acid; gradual smooth boundary.

Bt2—20 to 38 inches; strong brown (7.5YR 4/6) clay; weak medium subangular blocky structure; friable, moderately sticky, slightly plastic; few fine roots; many distinct clay films on all faces of peds; common medium and coarse distinct yellowish brown (10YR 5/8) masses of oxidized iron; strongly acid; gradual smooth boundary.

C—38 to 65 inches; strong brown (7.5YR 5/8) clay loam; massive; firm, slightly sticky, nonplastic; few fine distinct yellowish brown (10YR 5/8) masses of oxidized iron; very strongly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 2 percent in the A, Ap, and Bt horizons; 0 to 15 percent in the C horizon
Reaction: Extremely acid to strongly acid in the A and Ap horizons and in the upper part of the Bt horizon; extremely acid to slightly acid in the lower part of the Bt horizon and in the C horizon

A horizon (where present):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 6
Texture—sandy loam, fine sandy loam, loam, or silt loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—4 to 6
Chroma—2 to 6
Texture—loam

Bt horizon:
Hue—7.5YR or 10YR
Value—4 to 6
Chroma—4 to 8
Texture—loam, sandy clay loam, or clay loam; subhorizons include clay textures

C horizon:
Hue—7.5YR to 2.5Y
Value—4 to 7
Chroma—2 to 8
Texture—clay loam or stratified sand, loamy sand, or sandy loam in the fine-earth fraction

Note: The State soils in Appomattox County differ from the defined State series criteria because they commonly have a clay texture in subhorizons of the Bt horizon and clay loam in the C horizon. These differences, however, do not significantly affect the use and management of the soils.

Tatum Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from phyllite and/or mica schist
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Deep
Slope range: 2 to 25 percent

Associated Soils

- Nason soils, which have a subsoil that is browner than that of the Tatum soils and are in similar landscape positions
- Manteo soils, which are shallower to bedrock than the Tatum soils and are in similar landscape positions
- Turbeville soils, which have a solum that is thicker than that of the Tatum soils and are in high terrace positions

Taxonomic Classification

Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Tatum silt loam, 2 to 7 percent slopes; located in a forested area, about 0.9 mile east-southeast (118 degrees) of the junction of Highways VA-635 and VA-695 and 0.9 mile south-southwest (224 degrees) of the junction of Highways US-460 and VA-695.

A—0 to 5 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 10 percent angular gravel; strongly acid; clear smooth boundary.

BA—5 to 10 inches; yellowish red (5YR 5/8) silt loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; 10 percent angular gravel; strongly acid; gradual wavy boundary.

Bt1—10 to 34 inches; red (2.5YR 4/6) clay; moderate fine and medium angular blocky structure; friable, moderately sticky, slightly plastic; common fine, medium, and coarse roots; many distinct clay films on all faces of peds; 5 percent angular gravel; strongly acid; gradual wavy boundary.

Bt2—34 to 41 inches; red (2.5YR 5/6) clay; moderate fine and medium angular blocky structure; friable, slightly sticky, slightly plastic; common fine, medium, and coarse roots; common distinct clay films on all faces of peds; 5 percent angular gravel; strongly acid; abrupt irregular boundary.

Cr—41 to 60 inches; reddish brown (2.5YR 4/4) and yellow (2.5Y 7/6) weathered sericite schist bedrock.

Range in Characteristics

Solum thickness: 30 to 60 inches

Depth to soft bedrock: 40 to 60 inches

Depth to hard bedrock: 60 inches or more

Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons

Reaction: Very strongly acid or strongly acid

A horizon:

Hue—7.5YR or 10YR
Value—3 to 6
Chroma—2 to 4
Texture—silt loam

Ap horizon (where present):

Hue—7.5YR or 10YR
Value—4 or 5
Chroma—2 to 8
Texture—silt loam

BA horizon:

Hue—7.5YR or 10YR
Value—4 to 6
Chroma—3 to 8
Texture—silt loam

Bt horizon:

Hue—10R or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture—clay loam, silty clay loam, silty clay, or clay in the fine-earth fraction

C horizon (where present):

Hue—10R to 5YR
Value—4 to 6
Chroma—4 to 8
Texture—silt loam or silty clay loam in the fine-earth fraction

Cr horizon:
Hue—10R to 5Y
Value—4 to 8
Chroma—1 to 8
Texture—weathered sericite schist

Turbeville Series

Physiographic province: Southern Piedmont
Landform: High level stream terrace
Parent material: Old alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Tatum soils, which are shallower to soft bedrock than the Turbeville soils and are in adjacent upland positions

Taxonomic Classification

Fine, kaolinitic, thermic Typic Kandiudults

Typical Pedon

Turbeville loam, in an area of Turbeville-Tatum complex, 15 to 25 percent slopes; located in an area of pasture, about 1.3 miles north-northwest (328 degrees) of the junction of Highways VA-623 and VA-625 and 1.6 miles west-northwest (276 degrees) of the junction of Highways VA-683 and VA-605.

Ap—0 to 4 inches; brown (7.5YR 4/4) loam; moderate fine and medium angular blocky structure; friable, moderately sticky, slightly plastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bt1—4 to 24 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; friable, moderately sticky, slightly plastic; common fine roots; few distinct clay films on all faces of peds and many distinct clay bridges between sand grains; few medium prominent black (N 2/) manganese masses; strongly acid; gradual smooth boundary.

Bt2—24 to 40 inches; red (2.5YR 4/6) clay; moderate coarse subangular blocky structure and moderate fine and medium subangular blocky; friable, moderately sticky, slightly plastic; common fine roots; few distinct clay films on all faces of peds and many distinct clay bridges between sand grains; few medium prominent black (N 2/) manganese masses; strongly acid; gradual smooth boundary.

Bt3—40 to 65 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure and moderate coarse subangular blocky; friable, moderately sticky, slightly plastic; few fine roots; few distinct clay films on all faces of peds and many distinct clay bridges between sand grains; few medium prominent black (N 2/) manganese masses; strongly acid.

Range in Characteristics

Solum thickness: 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt horizon (fig. 14)

Figure 14.—A profile of a Turbeville soil. These well drained, very deep soils are derived from old alluvium and occur on high terraces adjacent to streams and rivers. Water-rounded cobbles occur in the lower part of the subsoil.

Reaction: Very strongly acid or strongly acid

A horizon (where present):
Hue—5YR to 10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam

Ap horizon:
Hue—5YR to 10YR
Value—4 or 5
Chroma—2 to 4
Texture—loam

Bt horizon (upper part):
Hue—2.5YR to 10YR
Value—4 to 6
Chroma—4 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

Bt horizon (lower part):
Hue—10R to 5YR
Value—3 or 4
Chroma—4 to 8
Texture—clay loam, sandy clay, or clay in the fine-earth fraction

Wedowee Series

Physiographic province: Southern Piedmont
Landform: Hillslopes
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 2 to 25 percent

Associated Soils

- Pacolet soils, which have a subsoil that is redder than that of the Wedowee soils and are in similar landscape positions
- Louisburg soils, which have less clay in the subsoil than the Wedowee soils and are in similar landscape positions

Taxonomic Classification

Fine, kaolinitic, thermic Typic Hapludults

Typical Pedon

Wedowee sandy loam, 2 to 7 percent slopes; located in a cultivated area, about 0.9 mile northeast (39 degrees) of the junction of Highways VA-727 and VA-638 and 1.2 miles west-southwest (245 degrees) of junction of Highways VA-663 and VA-638.

Ap—0 to 7 inches; yellowish brown (10YR 5/4) and brown (10YR 5/3) sandy loam; moderate fine, medium, and coarse subangular blocky structure; friable, slightly sticky, nonplastic; many fine, medium, and coarse roots; 10 percent gravel; very strongly acid; clear smooth boundary.

Bt—7 to 25 inches; yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) clay loam; moderate medium angular blocky structure; friable, slightly sticky, slightly plastic; many fine, medium, and coarse roots; many distinct clay films on all faces of peds; very strongly acid; gradual wavy boundary.

C1—25 to 47 inches; yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), and yellowish red (5YR 5/8) sandy clay loam; massive; friable, slightly sticky, nonplastic; few fine roots; very strongly acid; gradual wavy boundary.

C2—47 to 65 inches; yellowish red (5YR 5/8), brownish yellow (10YR 6/6), yellowish brown (10YR 5/6), and very pale brown (10YR 8/3) sandy clay loam; massive; friable, slightly sticky, nonplastic; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent in the A and Ap horizons; 0 to 35 percent in the Bt and C horizons
Reaction: Very strongly acid or strongly acid

A horizon (where present):
Hue—7.5YR to 2.5Y
Value—3 to 6
Chroma—2 to 4
Texture—sandy loam

Ap horizon:
Hue—7.5YR to 2.5Y
Value—3 to 6

Chroma—2 to 4
Texture—sandy loam

Bt horizon:
Hue—5YR to 10YR
Value—4 to 6
Chroma—6 or 8
Texture—clay loam or clay in the fine-earth fraction

C horizon:
Hue—2.5YR to 10YR
Value—4 to 8
Chroma—1 to 8
Texture—sandy loam, sandy clay loam, or clay loam in the fine-earth fraction

Note: The Wedowee soils in Appomattox County are considered taxadjuncts to the series because they do not generally meet the criteria for the kandic horizon. This difference, however, does not significantly affect the use and management of the soils.

Wehadkee Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is older and better developed than that of the Wehadkee soils, have iron and manganese depletions in the lower subsoil, and are on adjacent terraces
- Chewacla soils, which have a subsoil that is browner than that of the Wehadkee soils and are in similar landscape positions
- Riverview soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions
- State soils, which do not have iron and manganese depletions in the upper part of the subsoil and are on adjacent stream terraces

Taxonomic Classification

Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts

Typical Pedon

Wehadkee loam, 0 to 2 percent slopes, frequently flooded; located in a forested area, about 352 yards west-southwest (254 degrees) of the junction of Highways VA-26 and US-60 and 1.1 miles south-southwest (208 degrees) of the junction of Highways VA-605 and the Appomattox-Buckingham county line.

A—0 to 6 inches; grayish brown (10YR 5/2) loam; massive; friable, slightly sticky, nonplastic; many fine roots; strongly acid; abrupt smooth boundary.
Bg1—6 to 14 inches; light brownish gray (2.5Y 6/2) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; many medium prominent yellowish red (5YR 5/8) and faint light yellowish brown

(2.5Y 6/4) iron-manganese masses; few fine mica flakes; strongly acid; diffuse smooth boundary.

Bg2—14 to 25 inches; light olive gray (5Y 6/2) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine roots; many medium prominent yellowish brown (10YR 5/6) and yellowish red (5YR 5/8) iron-manganese masses; few fine mica flakes; very strongly acid; diffuse smooth boundary.

Bg3—25 to 45 inches; gray (5Y 6/1) loam; weak fine and medium subangular blocky structure; friable, slightly sticky, nonplastic; many medium prominent yellowish red (5YR 5/8) and brownish yellow (10YR 6/6) iron-manganese masses; few fine mica flakes; very strongly acid; diffuse smooth boundary.

Cg—45 to 74 inches; gray (10YR 5/1) and light gray (N 7/) sandy loam; massive; friable, slightly sticky, nonplastic; yellowish brown (10YR 5/6) iron-manganese masses; few fine mica flakes; very strongly acid.

Range in Characteristics

Solum thickness: 20 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: Less than 1 percent
Reaction: Very strongly acid to slightly acid

A horizon:
Hue—10YR or 2.5Y; or neutral in hue and has value of 4 to 6
Value—4 to 6
Chroma—1 to 4
Texture—loam

Bg horizon:
Hue—10YR to 5Y; or neutral in hue and has value of 4 to 6
Value—4 to 6
Chroma—1 or 2
Texture—loam, silt loam, sandy clay loam, clay loam, or silty clay loam

Cg horizon:
Hue—10YR to 5Y; or neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—dominantly sandy loam or loam; in some pedons, horizon is stratified and texture includes sand, loamy sand, sandy clay loam, clay loam, or silty clay loam

Note: The Wehadkee soils in Appomattox County differ from the defined Wehadkee series criteria because they generally do not have a moderately acid to neutral soil reaction in the 10- to 40-inch control section, but individual pedons can be moderately acid to neutral in the control section. This difference, however, does not significantly affect the use and management of the soils.

Wingina Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium
Drainage class: Well drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which have a subsoil that is more developed than that of the Wingina soils and are in stream terrace positions
- Batteau soils, which have iron and manganese depletions and masses in the subsoil and are in the lower flood plain positions
- Yogaville soils, which have iron and manganese depletions in the subsoil and are in the lower flood plain positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluventic Hapludolls

Typical Pedon

Wingina loam, 0 to 2 percent slopes, occasionally flooded; located in an area of pasture, 2.1 miles northwest (315 degrees) of the junction of Highways VA-611 and VA-667 and 2.9 miles north (0 degrees) of the junction of Highways VA-611 and VA-721.

Ap—0 to 14 inches; dark brown (10YR 3/3) crushed and very dark grayish brown (10YR 3/2) broken-face loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine mica flakes; neutral; abrupt smooth boundary.

Bw1—14 to 40 inches; brown (10YR 4/3) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and medium roots; common fine mica flakes; neutral; diffuse smooth boundary.

Bw2—40 to 72 inches; brown (10YR 4/3) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common fine roots; common fine mica flakes; neutral.

Range in Characteristics

Solum thickness: 30 to 60 inches
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid to neutral

A horizon (where present):
Hue—10YR
Value—3
Chroma—2 or 3
Texture—loam

Ap horizon:
Hue—10YR
Value—3
Chroma—2 or 3
Texture—loam

Bw horizon:
Hue—7.5YR or 10YR
Value—3 to 5
Chroma—3 or 4
Texture—fine sandy loam, sandy loam, loam, sandy clay loam, or clay loam

C horizon (where present):
Hue—7.5YR or 10YR
Value—4 or 5

Chroma—3 to 8
Texture—sand, loamy sand, sandy loam, or fine sandy loam; stratified in some pedons

Yogaville Series

Physiographic province: Southern Piedmont
Landform: Flood plain
Parent material: Recent alluvium
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Moderately high
Depth class: Very deep
Slope range: 0 to 2 percent

Associated Soils

- Altavista soils, which do not have iron and manganese depletions in the upper part of the subsoil and are on adjacent stream terraces
- Batteau soils, which do not have iron and manganese depletions in the subsoil and are in landscape positions similar to those of the Yogaville soils
- Wingina soils, which do not have iron and manganese depletions in the upper part of the subsoil and are in the higher flood plain positions

Taxonomic Classification

Fine-loamy, mixed, active, thermic Fluvaquentic Endoaquolls

Typical Pedon

Yogaville loam, 0 to 2 percent slopes, frequently flooded; located in an area of hayland, about 1.3 miles north-northeast (5 degrees) of the junction of Highways VA-605 and VA-623 and 1.8 miles west (270 degrees) of the junction of Highways VA-605 and VA-623.

Ap—0 to 14 inches; dark brown (10YR 3/3) crushed and very dark grayish brown (10YR 3/2) broken-face loam; moderate medium granular structure; friable, slightly sticky, slightly plastic; few fine and medium roots; few fine mica flakes; neutral; abrupt smooth boundary.
Bg1—14 to 32 inches; gray (10YR 6/1) clay loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; many medium distinct light yellowish brown (2.5Y 6/4) and yellowish red (5YR 5/8) iron-manganese masses; few fine mica flakes; neutral; clear smooth boundary.
Bg2—32 to 55 inches; gray (10YR 5/1) silt loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium prominent yellowish brown (10YR 5/6) iron-manganese masses; few fine mica flakes; slightly acid; clear smooth boundary.
Bg3—55 to 72 inches; gray (10YR 5/1) loam; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; common medium prominent yellowish brown (10YR 5/6) iron-manganese masses; few fine mica flakes; 5 percent rounded quartz gravel; slightly acid.

Range in Characteristics

Solum thickness: 30 to 60 inches or more
Depth to bedrock: 60 inches or more
Rock fragments: 0 to 15 percent throughout the profile
Reaction: Strongly acid to neutral

Ap horizon:
Hue—10YR to 5Y
Value—3
Chroma—2 or 3
Texture—loam

Bg horizon:
Hue—10YR to 5Y; or is neutral in hue and has value of 4 to 6
Value—4 to 6
Chroma—1 or 2
Texture—sandy loam, fine sandy loam, loam, silt loam, or clay loam

Cg horizon (where present):
Hue—10YR to 5Y; or neutral in hue and has value of 4 to 7
Value—4 to 7
Chroma—1 or 2
Texture—sand, loamy sand, sandy loam, or fine sandy loam; stratified in some pedons

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

The five major factors of soil formation are parent material, topography, climate, living organisms, and time. Topography and parent material are modified over time by the active factors of climate and living organisms (Jenny, 1941).

Parent Material

Parent material is the unconsolidated material in which a soil forms. In Appomattox County, parent materials are residual or transported material.

Residual parent material has weathered in place from the underlying bedrock. Properties of the residual parent material are directly related to the characteristics of the underlying bedrock. Beckham, Cecil, Cullen, Iredell, Louisburg, Manteo, Mayodan, Mecklenburg, Nason, Pacolet, Poindexter, Tatum, and Wedowee soils formed in residuum.

Transported parent material consists of alluvial sediments and colluvial sediments. The alluvial sediments were moved by water and were deposited as mixtures or layers of rock fragments, sand, silt, and clay. They are on flood plains and terraces. Batteau, Chewacla, Riverview, Wehadkee, Wingina, and Yogaville soils formed in recent alluvium on flood plains. Altavista, State, and Turbeville soils formed in alluvial sediments on terraces. The colluvial sediments were moved by gravity, with water acting as the lubricant. They are on upland summits, shoulders, and side slopes. Appomattox and Mattaponi soils formed in colluvium.

Igneous and metamorphic rocks are the two primary types of rock in the county. Igneous rocks formed from the cooling of molten rock material. Examples of igneous rocks in the county are granite and diabase. Metamorphic rocks are igneous or sedimentary rocks that have been altered by heat and pressure. Granite gneiss, mica schist, biotite gneiss, phyllite, sericite schist, quartzite, and marble are examples of metamorphic rock in Appomattox County.

Igneous and metamorphic rocks are subdivided into felsic and mafic rock types. The subdivision is based on the nature and amount of specific minerals in the rocks. Mafic rocks generally are richer in calcium and magnesium than felsic rocks. Soils that formed from felsic rocks, such as granite, granite gneiss, biotite gneiss, and mica schist, are Cecil, Wedowee, and Louisburg soils. Iredell and Mecklenburg soils formed from mafic rocks, such as hornblende gneiss and chloritic schist.

Topography

Topography 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 the 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.

Physiographically, Appomattox County is located within the Piedmont. The elevation of the county ranges from about 370 to 1,150 feet above sea level. The gradient of the Piedmont upland is about 5 feet per mile. Stream gradients in the survey area are generally about 2 to 15 feet per mile.

The county generally consists of gently sloping to steep, intermediate to broad ridges. The gently sloping areas have medium rates of runoff and a good rate of water infiltration. The steep areas commonly have rapid rates of runoff and a poor rate of water infiltration. The steeper soils have less development in the subsoil than the less sloping soils. Pacolet, Poindexter, and Wedowee soils are examples of less developed soils. The lesser degree of development is commonly due to the effects of relief on erosional forces.

Climate

Climate determines, to a large extent, the rate and degree of weathering of the parent material. It also determines the kind and amount of biological activity and influences the type of weathering, chemical or physical, that parent material undergoes.

Chemical weathering of parent material occurs more rapidly under a warm, humid environment, such as that of Appomattox County, than under a cold, dry climate. Physical weathering is more pronounced under the colder, dryer climates. Although landscape position and slope modify the influence of climate, their effects do not account for major differences among the soils of the survey area. The amount of precipitation and the movement of the water through the soil greatly affect the translocation of clays and the movement of minerals out of the zone of biological activity. The climate of the Piedmont causes rapid weathering of parent material and thus promotes the movement of clays and minerals. Weathering, translocation of clays, and leaching of minerals take place most of the year. The relative influence of each on the soil determines the main characteristics of the soil.

Living Organisms

Plants and animals are the main sources of organic matter in the soils. Organic matter decomposes and is incorporated into the soil by the action of micro-organisms and earthworms and, to a lesser degree, by windthrown trees and burrowing animals.

In the Piedmont, the warm, humid environment, the adequate supply of moisture, and the abundance of micro-organisms prevent the accumulation of large amounts of organic matter. Earthworms, burrowing animals, and plant roots help to keep the soil aerated. Plant roots also help in soil formation by penetrating cracks and breaking up the underlying bedrock.

Cultivation, drainage, irrigation, use of new types of vegetation, applications of lime and fertilizer, and use of herbicides and pesticides are some of the ways that humans have influenced the rate of soil development in the survey area. In most of Appomattox County, human influence has caused an increase in erosion.

Time

Time is needed for changes to take place in the parent material. Because of the 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 though they formed in the same parent material. For example, the moderately deep Louisburg 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 form in weather-resistant parent material do not develop as rapidly as soils that form in parent material that is 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 Appomattox County 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 Appomattox County, 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 Wehadkee soils, the subsoil and underlying material are gray. This indicates the reduction and transfer of iron or manganese, or both, in solution (Vepraskas, 1992).

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial fan. A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha,alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

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.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. An informal term loosely applied to various portions of a flood plain.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.

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.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

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.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. See Redoximorphic features.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A dense, compact subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. The layer restricts the downward movement of water through the soil. A claypan is commonly hard when dry and plastic and sticky when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. See Redoximorphic features.

Conglomerate. A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

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.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

Draw. A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

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.

Fan (alluvial). A generic term for constructional landforms that are built of stratified alluvium with or without debris-flow deposits and that occur on the pediment slope, downslope from their source of alluvium.

Fan remnant. A general term for landforms that are the remaining parts of older fan landforms, such as alluvial fans, that have been either dissected or partially buried.

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.

Flooding frequency class. Flooding frequency class is the number of times flooding occurs over a period of time and expressed as a class. The classes of flooding are defined as follows:

None. No reasonable possibility of flooding; near 0 percent chance of flooding in any year or less than 1 time in 500 years.

Very Rare. Flooding is very unlikely but possible under extremely unusual weather conditions; less than 1 percent chance of flooding in any year or less than 1 time in 100 years but at least 1 time in 500 years.

Rare. Flooding unlikely but possible under unusual weather conditions; 1 to 5 percent chance of flooding in any year or nearly 1 to 5 times in 100 years.

Occasional. Flooding is expected infrequently under usual weather conditions; 5 to 50 percent chance of flooding in any year or >5 to 50 times in 100 years.

Frequent. Flooding is likely to occur often under usual weather conditions; more than a 50 percent chance of flooding in any year or more than 50 times in 100 years, but 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; more than a 50 percent chance of flooding in all months of any year.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

Hillslope. A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties include depth to a seasonal high water table, the infiltration rate, and depth to a layer that significantly restricts the downward movement of water. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low

0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. See Saturated hydraulic conductivity.

Landslide. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Mass movement. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

Masses. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

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.)

Mudstone. A blocky or massive, fine grained sedimentary rock in which the proportions of clay and silt are approximately equal. Also, a general term for such material as clay, silt, claystone, siltstone, shale, and argillite and that should be used only when the amounts of clay and silt are not known or cannot be precisely identified.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

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

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plateau (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Pore linings. See Redoximorphic features.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:

   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*

   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*

   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.

2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*

   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).

3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Regolith. All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturated hydraulic conductivity (Ksat). The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "Ksat." Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. 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.

Side slope (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 7 percent
Strongly sloping	7 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 45 percent

Slope alluvium. Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.

Slow refill (in tables). The slow filling of ponds, resulting from restricted water transmission in the soil.

Slow water movement (in tables). Restricted downward movement of water through the soil. See Saturated hydraulic conductivity.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief and by the passage of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion. Terraces susceptible to flooding are subdivided as follows:

Low stream terrace.—A terrace that is susceptible to flooding.

High stream terrace.—A terrace that is not susceptible to flooding.

Terracettes. Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

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.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Valley fill. The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-1989 at Appomattox, Virginia)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	43.5	23.0	33.2	60	10	42	2.75	1.34	3.84	6	6
February----	46.3	24.7	35.5	60	15	55	3.06	1.63	4.40	6	5
March-------	56.9	33.6	45.2	72	22	200	3.68	2.50	4.55	7	3
April-------	67.2	42.4	54.8	82	30	437	3.48	2.09	4.74	7	0
May---------	75.6	51.5	63.6	85	40	731	3.90	1.96	5.04	7	0
June--------	82.6	59.8	71.2	90	50	930	3.28	1.31	5.06	6	0
July--------	86.4	64.0	75.2	92	56	1,086	4.17	2.57	5.41	7	0
August------	85.1	63.1	74.1	90	56	1,048	4.21	1.77	6.56	7	0
September---	78.8	56.0	67.4	88	46	795	3.61	1.41	6.35	5	0
October-----	68.1	43.1	55.6	78	31	485	3.48	1.35	4.96	5	0
November----	58.5	35.8	47.1	71	25	242	3.40	1.38	4.95	6	1
December----	47.7	26.7	37.2	60	16	83	3.15	1.17	4.66	6	2
Yearly:											
Average---	66.4	43.6	55.0	---	---	---	---	---	---	---	---
Extreme---	103	-8	---			---	---	---	---	---	---
Total-----	---	---	---	---	---	6,132	42.16	20.48	60.52	74	17

* 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 1961-1989 at Appomattox, VA)

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. 11	May 2
2 year in 10 later than--	Mar. 23	Apr. 3	Apr. 17
5 year in 10 later than--	Mar. 6	Mar. 25	Apr. 8
First freezing temperature in fall:			
1 yr in 10 earlier than--	Oct. 25	Oct. 19	Oct. 5
2 yr in 10 earlier than--	Nov. 3	Oct. 20	Oct. 8
5 yr in 10 earlier than--	Nov. 19	Nov. 3	Oct. 20

Table 3.—Growing Season

(Recorded for the period 1961-1989 at Appomattox, VA)

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	226	193	173
8 years in 10	232	205	180
5 years in 10	251	221	193
2 years in 10	337	337	337
1 year in 10	339	339	338

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1A	Altavista loam, 0 to 2 percent slopes, occasionally flooded	1,797	0.8
2B	Appomattox-Cullen complex, 2 to 7 percent slopes	4,850	2.3
2C	Appomattox-Cullen complex, 7 to 15 percent slopes	930	0.4
3A	Batteau loam, 0 to 2 percent slopes, frequently flooded	50	*
4B	Beckham clay loam, 2 to 7 percent slopes	349	0.2
4C	Beckham clay loam, 7 to 15 percent slopes	247	0.1
4D	Beckham clay loam, 15 to 25 percent slopes	229	0.1
5B	Cecil sandy loam, 2 to 7 percent slopes	18,558	8.6
6A	Chewacla loam, 0 to 2 percent slopes, frequently flooded	8,746	4.1
7B	Cullen clay loam, 2 to 7 percent slopes	15,861	7.4
8B	Iredell loam, 2 to 7 percent slopes	9,047	4.2
8C	Iredell loam, 7 to 15 percent slopes	2,303	1.1
9E	Louisburg gravelly coarse sandy loam, 25 to 50 percent slopes	2,920	1.4
10E	Manteo-Rock outcrop complex, 7 to 60 percent slopes	386	0.2
11E	Manteo very channery loam, 25 to 60 percent slopes	8,069	3.7
12B	Mattaponi-Cecil complex, 2 to 7 percent slopes	4,713	2.2
12C	Mattaponi-Cecil complex, 7 to 15 percent slopes	911	0.4
13B	Mayodan gravelly sandy loam, 2 to 7 percent slopes	438	0.2
13C	Mayodan gravelly sandy loam, 7 to 15 percent slopes	308	0.1
13D	Mayodan gravelly sandy loam, 15 to 25 percent slopes	289	0.1
14B	Mecklenburg loam, 2 to 7 percent slopes	4,132	1.9
15B	Mecklenburg-Poindexter complex, 2 to 7 percent slopes	653	0.3
15C	Mecklenburg-Poindexter complex, 7 to 15 percent slopes	18,521	8.6
15D	Mecklenburg-Poindexter complex, 15 to 25 percent slopes	7,132	3.3
16B	Nason gravelly loam, 2 to 7 percent slopes	373	0.2
17B	Nason-Manteo complex, 2 to 7 percent slopes	385	0.2
17C	Nason-Manteo complex, 7 to 15 percent slopes	341	0.2
17D	Nason-Manteo complex, 15 to 25 percent slopes	242	0.1
18B	Pacolet-Louisburg complex, 2 to 7 percent slopes	800	0.4
18C	Pacolet-Louisburg complex, 7 to 15 percent slopes	17,496	8.1
18D	Pacolet-Louisburg complex, 15 to 25 percent slopes	8,540	4.0
19E	Poindexter gravelly silt loam, 25 to 60 percent slopes	3,476	1.6
20A	Riverview loam, 0 to 2 percent slopes, occasionally flooded	2,280	1.1
21A	State loam, 0 to 2 percent slopes, rarely flooded	275	0.1
22B	Tatum-Manteo complex, 2 to 7 percent slopes	1,256	0.6
22C	Tatum-Manteo complex, 7 to 15 percent slopes	21,375	9.9
22D	Tatum-Manteo complex, 15 to 25 percent slopes	15,230	7.1
23B	Tatum silt loam, 2 to 7 percent slopes	21,869	10.2
24B	Turbeville loam, 2 to 7 percent slopes	335	0.2
24C	Turbeville loam, 7 to 15 percent slopes	291	0.1
25B	Turbeville-Tatum complex, 2 to 7 percent slopes	517	0.2
25C	Turbeville-Tatum complex, 7 to 15 percent slopes	686	0.3
25D	Turbeville-Tatum complex, 15 to 25 percent slopes	551	0.3
26	Udorthents-Urban land complex, 0 to 15 percent slopes	317	0.1
27B	Wedowee sandy loam, 2 to 7 percent slopes	1,774	0.8
28C	Wedowee-Louisburg complex, 7 to 15 percent slopes	1,900	0.9
28D	Wedowee-Louisburg complex, 15 to 25 percent slopes	782	0.4
29A	Wehadkee loam, 0 to 2 percent slopes, frequently flooded	2,520	1.2
30A	Wingina loam, 0 to 2 percent slopes, occasionally flooded	50	*
31A	Yogaville loam, 0 to 2 percent slopes, frequently flooded	50	*
W	Water	50	*
	Total	215,200	100.0

* Less than 0.1 percent.

Table 5a.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 1)

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	Corn	Grass-legume hay	Soybeans	Tobacco	Wheat
			Bu	Tons	Bu	Lbs	Bu
1A:							
Altavista	2w	B	160	4.5	50	---	64
2B:							
Appomattox	2e	O	130	4.0	40	---	64
Cullen	3e	N	91	2.8	28	---	45
2C:							
Appomattox	3e	O	114	3.5	35	---	56
Cullen	4e	N	80	2.5	25	---	39
3A:							
Batteau	3w	I	140	4.5	40	---	64
4B:							
Beckham	3e	O	130	4.0	40	---	64
4C:							
Beckham	4e	O	114	3.5	35	---	56
4D:							
Beckham	6e	O	---	---	---	---	---
5B:							
Cecil	2e	X	100	3.5	35	1800	56
6A:							
Chewacla	6w	I	---	---	---	---	---
7B:							
Cullen	3e	N	91	2.8	22	---	45
8B:							
Iredell	2e	KK	65	3.0	15	---	32
8C:							
Iredell	3e	KK	57	2.6	18	---	28
9E:							
Louisburg	7e	FF	---	---	---	---	---
10E:							
Manteo	7s	JJ	---	---	---	---	---
Rock outcrop	8s		---	---	---	---	---
11E:							
Manteo	7e	JJ	---	---	---	---	---
12B:							
Mattaponi	2e	R	120	4.0	40	2150	56
Cecil	2e	X	100	3.5	35	2150	56

Table 5a.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 1)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Soybeans	Tobacco	Wheat
			Bu	Tons	Bu	Lbs	Bu
12C:							
Mattaponi---------	3e	R	105	3.5	35	1950	49
Cecil-------------	3e	X	88	3.1	31	---	49
13B:							
Mayodan-----------	2e	V	90	3.1	32	1800	50
13C:							
Mayodan-----------	3e	V	79	2.8	28	1700	44
13D:							
Mayodan-----------	4e	V	72	2.5	25	---	40
14B:							
Mecklenburg-------	2e	V	100	3.5	35	---	56
15B:							
Mecklenburg-------	2e	V	100	3.5	35	---	56
Poindexter--------	2e	FF	85	3.5	25	---	48
15C:							
Mecklenburg-------	3e	V	88	3.1	31	---	49
Poindexter--------	3e	FF	75	3.1	22	---	42
15D:							
Mecklenburg-------	4e	V	80	2.8	28	---	45
Poindexter--------	4e	FF	68	2.8	20	---	38
16B:							
Nason-------------	2e	V	90	3.1	32	---	50
17B:							
Nason-------------	2e	V	100	3.5	35	---	56
Manteo------------	4s	JJ	65	3.0	20	---	40
17C:							
Nason-------------	3e	V	88	3.1	31	---	49
Manteo------------	6s	JJ	---	---	---	---	---
17D:							
Nason-------------	4e	V	80	2.8	28	---	45
Manteo------------	6s	JJ	---	---	---	---	---
18B:							
Pacolet-----------	2e	X	100	3.5	35	2200	56
Louisburg---------	3s	FF	85	3.5	25	---	48
18C:							
Pacolet-----------	3e	X	88	3.1	31	1400	49
Louisburg---------	4s	FF	75	3.1	22	---	42

Table 5a.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 1)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Soybeans	Tobacco	Wheat
			Bu	Tons	Bu	Lbs	Bu
18D:							
Pacolet-----------	4e	X	80	2.8	28	---	45
Louisburg---------	4e	FF	68	2.8	20	---	38
19E:							
Poindexter--------	7e	FF	---	---	---	---	---
20A:							
Riverview---------	2w	G	140	4.5	40	---	64
21A:							
State-------------	1	B	160	4.5	50	3000	64
22B:							
Tatum-------------	2e	X	100	3.5	35	1000	56
Manteo------------	4s	JJ	65	3.0	20	---	40
22C:							
Tatum-------------	3e	X	88	3.1	31	1000	49
Manteo------------	6s	JJ	---	---	---	---	---
22D:							
Tatum-------------	4e	X	80	2.8	28	---	45
Manteo------------	6s	JJ	---	---	---	---	---
23B:							
Tatum-------------	2e	X	100	3.5	35	1200	56
24B:							
Turbeville--------	2e	O	130	4.0	40	---	64
24C:							
Turbeville--------	3e	O	114	3.5	35	---	56
25B:							
Turbeville--------	2e	O	130	4.0	40	---	64
Tatum-------------	2e	X	100	3.5	35	---	56
25C:							
Turbeville--------	3e	O	114	3.5	35	---	56
Tatum-------------	3e	X	88	3.1	31	---	49
25D:							
Turbeville--------	4e	O	104	3.2	32	---	51
Tatum-------------	4e	X	80	2.8	28	---	45
26:							
Udorthents--------	---		---	---	---	---	---
Urban land--------	8s		---	---	---	---	---

Table 5a.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 1)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Corn	Grass-legume hay	Soybeans	Tobacco	Wheat
			Bu	Tons	Bu	Lbs	Bu
27B:							
Wedowee-----------	2e	V	100	3.5	35	1800	56
28C:							
Wedowee-----------	3e	V	88	3.1	31	1700	49
Louisburg---------	4s	FF	75	3.1	22	---	42
28D:							
Wedowee-----------	4e	V	80	2.8	28	---	45
Louisburg---------	4e	FF	68	2.8	20	---	38
29A:							
Wehadkee----------	6w	MM	---	---	---	---	---
30A:							
Wingina-----------	1	A	160	4.5	50	---	64
31A:							
Yogaville---------	6w	MM	---	---	---	---	---

Table 5b.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 2)

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
1A:			
Altavista	2w	B	11.5
2B:			
Appomattox	2e	O	8.0
Cullen	3e	N	8.3
2C:			
Appomattox	3e	O	7.5
Cullen	4e	N	7.6
3A:			
Batteau	3w	I	8.3
4B:			
Beckham	3e	O	8.5
4C:			
Beckham	4e	O	7.5
4D:			
Beckham	6e	O	4.5
5B:			
Cecil	2e	X	8.0
6A:			
Chewacla	6w	I	9.0
7B:			
Cullen	3e	N	8.3
8B:			
Iredell	2e	KK	4.0
8C:			
Iredell	3e	KK	3.5
9E:			
Louisburg	7e	FF	---
10E:			
Manteo	7s	JJ	---
Rock outcrop	8s		---
11E:			
Manteo	7e	JJ	---

Table 5b.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 2)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Pasture
			AUM
12B:			
Mattaponi	2e	R	6.0
Cecil	2e	X	8.0
12C:			
Mattaponi	3e	R	4.0
Cecil	3e	X	7.0
13B:			
Mayodan	2e	V	8.0
13C:			
Mayodan	3e	V	7.0
13D:			
Mayodan	4e	V	6.0
14B:			
Mecklenburg	2e	V	6.0
15B:			
Mecklenburg	2e	V	6.0
Poindexter	2e	FF	5.0
15C:			
Mecklenburg	3e	V	5.0
Poindexter	3e	FF	4.4
15D:			
Mecklenburg	4e	V	4.5
Poindexter	4e	FF	3.7
16B:			
Nason	2e	V	8.0
17B:			
Nason	2e	V	8.0
Manteo	4s	JJ	1.0
17C:			
Nason	3e	V	7.5
Manteo	6s	JJ	1.0
17D:			
Nason	4e	V	7.5
Manteo	6s	JJ	1.0
18B:			
Pacolet	2e	X	7.5
Louisburg	3s	FF	5.5

Table 5b.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 2)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Pasture
			AUM
18C:			
Pacolet	3e	X	7.0
Louisburg	4s	FF	5.0
18D:			
Pacolet	4e	X	6.5
Louisburg	4e	FF	4.5
19E:			
Poindexter	7e	FF	---
20A:			
Riverview	2w	G	12.0
21A:			
State	1	B	12.0
22B:			
Tatum	2e	X	8.0
Manteo	4s	JJ	3.0
22C:			
Tatum	3e	X	7.5
Manteo	6s	JJ	2.5
22D:			
Tatum	4e	X	7.0
Manteo	6s	JJ	2.0
23B:			
Tatum	2e	X	8.0
24B:			
Turbeville	2e	O	9.5
24C:			
Turbeville	3e	O	9.0
25B:			
Turbeville	2e	O	9.0
Tatum	2e	X	8.0
25C:			
Turbeville	3e	O	7.0
Tatum	3e	X	7.5
25D:			
Turbeville	4e	O	6.5
Tatum	4e	X	7.0

Table 5b.—Land Capability, Virginia Soil Management Group, and Yields per Acre of Crops and Pasture (Part 2)—Continued

Map symbol and soil name	Land capability	Virginia Soil Management Group	Pasture
			AUM
26:			
Udorthents	---		---
Urban land	8s		---
27B:			
Wedowee	2e	V	8.5
28C:			
Wedowee	3e	V	8.0
Louisburg	4s	FF	5.0
28D:			
Wedowee	4e	V	7.5
Louisburg	4e	FF	4.5
29A:			
Wehadkee	6w	MM	8.5
30A:			
Wingina	1	A	9.7
31A:			
Yogaville	6w	MM	8.3

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name
1A	Altavista loam, 0 to 2 percent slopes, occasionally flooded
2B	Appomattox-Cullen complex, 2 to 7 percent slopes
4B	Beckham clay loam, 2 to 7 percent slopes
5B	Cecil sandy loam, 2 to 7 percent slopes
7B	Cullen clay loam, 2 to 7 percent slopes
12B	Mattaponi-Cecil complex, 2 to 7 percent slopes
13B	Mayodan gravelly sandy loam, 2 to 7 percent slopes
14B	Mecklenburg loam, 2 to 7 percent slopes
15B	Mecklenburg-Poindexter complex, 2 to 7 percent slopes
16B	Nason gravelly loam, 2 to 7 percent slopes
20A	Riverview loam, 0 to 2 percent slopes, occasionally flooded
21A	State loam, 0 to 2 percent slopes, rarely flooded
23B	Tatum silt loam, 2 to 7 percent slopes
24B	Turbeville loam, 2 to 7 percent slopes
25B	Turbeville-Tatum complex, 2 to 7 percent slopes
27B	Wedowee sandy loam, 2 to 7 percent slopes
30A	Wingina loam, 0 to 2 percent slopes, occasionally flooded

Table 7a.—Agricultural Waste Management (Part 1)

(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	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Very limited		Very limited	
	Depth to saturated zone	0.99	Flooding	1.00
	Flooding	0.60	Depth to saturated zone	0.99
	Too acid	0.11	Too acid	0.42
2B:				
Appomattox	Somewhat limited		Very limited	
	Too acid	0.73	Too acid	1.00
	Depth to saturated zone	0.32	Depth to saturated zone	0.32
	Slow water movement	0.30	Slow water movement	0.22
Cullen	Somewhat limited		Somewhat limited	
	Too acid	0.27	Too acid	0.85
	Low adsorption	0.01		
2C:				
Appomattox	Somewhat limited		Very limited	
	Too acid	0.73	Too acid	1.00
	Slope	0.37	Slope	0.37
	Depth to saturated zone	0.32	Depth to saturated zone	0.32
Cullen	Somewhat limited		Somewhat limited	
	Slope	0.37	Too acid	0.85
	Too acid	0.27	Slope	0.37
	Low adsorption	0.01		
3A:				
Batteau	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
4B:				
Beckham	Somewhat limited		Somewhat limited	
	Too acid	0.11	Too acid	0.42
4C:				
Beckham	Somewhat limited		Somewhat limited	
	Slope	0.37	Too acid	0.42
	Too acid	0.11	Slope	0.37
4D:				
Beckham	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.11	Too acid	0.42

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
5B:				
Cecil---------------	Somewhat limited		Somewhat limited	
	Too acid	0.27	Too acid	0.85
6A:				
Chewacla------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Too acid	0.62	Too acid	1.00
7B:				
Cullen--------------	Somewhat limited		Somewhat limited	
	Too acid	0.27	Too acid	0.85
	Low adsorption	0.01		
8B:				
Iredell-------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Low adsorption	1.00
8C:				
Iredell-------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Leaching	0.50	Low adsorption	1.00
9E:				
Louisburg-----------	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Filtering capacity	0.99	Slope	1.00
10E:				
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Depth to bedrock	1.00	Low adsorption	1.00
	Slope	1.00	Depth to bedrock	1.00
Rock outcrop--------	Not rated		Not rated	
11E:				
Manteo--------------	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Depth to bedrock	1.00	Slope	1.00
12B:				
Mattaponi-----------	Somewhat limited		Very limited	
	Too acid	0.62	Too acid	1.00
	Slow water movement	0.30	Slow water movement	0.22

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Cecil---------------	Somewhat limited		Somewhat limited	
	Too acid	0.27	Too acid	0.85
12C:				
Mattaponi-----------	Somewhat limited		Very limited	
	Too acid	0.62	Too acid	1.00
	Slope	0.37	Slope	0.37
	Slow water movement	0.30	Slow water movement	0.22
Cecil---------------	Somewhat limited		Somewhat limited	
	Slope	0.37	Too acid	0.85
	Too acid	0.27	Slope	0.37
13B:				
Mayodan-------------	Somewhat limited		Somewhat limited	
	Too acid	0.32	Too acid	0.91
13C:				
Mayodan-------------	Somewhat limited		Somewhat limited	
	Slope	0.37	Too acid	0.91
	Too acid	0.32	Slope	0.37
13D:				
Mayodan-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.32	Too acid	0.91
14B:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.11	Too acid	0.42
15B:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.11	Too acid	0.42
Poindexter----------	Somewhat limited		Very limited	
	Depth to bedrock	0.46	Low adsorption	1.00
	Too acid	0.27	Too acid	0.85
	Droughty	0.13	Depth to bedrock	0.46
15C:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.37	Too acid	0.42
	Too acid	0.11	Slope	0.37
Poindexter----------	Somewhat limited		Very limited	
	Depth to bedrock	0.46	Low adsorption	1.00
	Slope	0.37	Too acid	0.85
	Too acid	0.27	Depth to bedrock	0.46

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
15D:				
Mecklenburg---------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too acid	0.11	Too acid	0.42
Poindexter----------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.46	Slope	1.00
	Too acid	0.27	Too acid	0.85
16B:				
Nason---------------	Somewhat limited		Very limited	
	Too acid	0.62	Low adsorption	1.00
	Droughty	0.39	Too acid	1.00
			Droughty	0.39
17B:				
Nason---------------	Somewhat limited		Very limited	
	Too acid	0.62	Low adsorption	1.00
	Droughty	0.39	Too acid	1.00
			Droughty	0.39
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Depth to bedrock	1.00	Low adsorption	1.00
	Too acid	0.73	Depth to bedrock	1.00
17C:				
Nason---------------	Somewhat limited		Very limited	
	Too acid	0.62	Low adsorption	1.00
	Droughty	0.39	Too acid	1.00
	Slope	0.37	Droughty	0.39
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Depth to bedrock	1.00	Low adsorption	1.00
	Too acid	0.73	Depth to bedrock	1.00
17D:				
Nason---------------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.62	Slope	1.00
	Droughty	0.39	Too acid	1.00
Manteo--------------	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Depth to bedrock	1.00	Slope	1.00
18B:				
Pacolet-------------	Somewhat limited		Very limited	
	Too acid	0.62	Too acid	1.00

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Louisburg-----------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Filtering capacity	0.99	Low adsorption	1.00
	Depth to bedrock	0.65	Filtering capacity	0.99
18C:				
Pacolet-------------	Somewhat limited		Very limited	
	Too acid	0.62	Too acid	1.00
	Slope	0.37	Slope	0.37
Louisburg-----------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Filtering capacity	0.99	Low adsorption	1.00
	Depth to bedrock	0.65	Filtering capacity	0.99
18D:				
Pacolet-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.62	Too acid	1.00
Louisburg-----------	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Filtering capacity	0.99	Slope	1.00
19E:				
Poindexter----------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Depth to bedrock	0.46	Slope	1.00
	Too acid	0.27	Too acid	0.85
20A:				
Riverview-----------	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
	Too acid	0.37	Too acid	0.96
21A:				
State---------------	Somewhat limited		Somewhat limited	
	Too acid	0.37	Too acid	0.96
			Flooding	0.40
22B:				
Tatum---------------	Somewhat limited		Very limited	
	Too acid	0.37	Low adsorption	1.00
	Droughty	0.06	Too acid	0.96
			Droughty	0.06
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Depth to bedrock	1.00	Low adsorption	1.00
	Too acid	0.73	Depth to bedrock	1.00

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
22C:				
Tatum	Somewhat limited		Very limited	
	Too acid	0.37	Low adsorption	1.00
	Slope	0.37	Too acid	0.96
	Droughty	0.06	Slope	0.37
Manteo	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Depth to bedrock	1.00	Low adsorption	1.00
	Too acid	0.73	Depth to bedrock	1.00
22D:				
Tatum	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.37	Slope	1.00
	Droughty	0.06	Too acid	0.96
Manteo	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Depth to bedrock	1.00	Slope	1.00
23B:				
Tatum	Somewhat limited		Very limited	
	Too acid	0.37	Low adsorption	1.00
	Droughty	0.06	Too acid	0.96
			Droughty	0.06
24B:				
Turbeville	Somewhat limited		Very limited	
	Low adsorption	0.68	Too acid	0.99
	Too acid	0.50	Low adsorption	0.43
24C:				
Turbeville	Somewhat limited		Very limited	
	Low adsorption	0.68	Too acid	0.99
	Too acid	0.50	Low adsorption	0.43
	Slope	0.37	Slope	0.37
25B:				
Turbeville	Somewhat limited		Very limited	
	Low adsorption	0.68	Too acid	0.99
	Too acid	0.50	Low adsorption	0.43
Tatum	Somewhat limited		Very limited	
	Too acid	0.37	Low adsorption	1.00
	Droughty	0.06	Too acid	0.96
			Droughty	0.06
25C:				
Turbeville	Somewhat limited		Very limited	
	Low adsorption	0.68	Too acid	0.99
	Too acid	0.50	Low adsorption	0.43
	Slope	0.37	Slope	0.37
Tatum	Somewhat limited		Very limited	
	Too acid	0.37	Low adsorption	1.00
	Slope	0.37	Too acid	0.96
	Droughty	0.06	Slope	0.37

Table 7a.—Agricultural Waste Management (Part 1)—Continued

Map symbol and soil name	Application of manure and food-processing waste		Application of sewage sludge	
	Rating class and limiting features	Value	Rating class and limiting features	Value
25D:				
Turbeville----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low adsorption	0.68	Too acid	0.99
	Too acid	0.50	Low adsorption	0.43
Tatum---------------	Very limited		Very limited	
	Slope	1.00	Low adsorption	1.00
	Too acid	0.37	Slope	1.00
	Droughty	0.06	Too acid	0.96
26:				
Udorthents----------	Not rated		Not rated	
Urban land----------	Not rated		Not rated	
27B:				
Wedowee-------------	Somewhat limited		Very limited	
	Too acid	0.89	Too acid	1.00
28C:				
Wedowee-------------	Somewhat limited		Very limited	
	Too acid	0.89	Too acid	1.00
	Slope	0.37	Slope	0.37
Louisburg-----------	Very limited		Very limited	
	Droughty	1.00	Droughty	1.00
	Filtering capacity	0.99	Low adsorption	1.00
	Depth to bedrock	0.65	Filtering capacity	0.99
28D:				
Wedowee-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too acid	0.89	Too acid	1.00
Louisburg-----------	Very limited		Very limited	
	Slope	1.00	Droughty	1.00
	Droughty	1.00	Low adsorption	1.00
	Filtering capacity	0.99	Slope	1.00
29A:				
Wehadkee------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40	Too acid	0.77
30A:				
Wingina-------------	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
31A:				
Yogaville-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	1.00
	Runoff	0.40		

Table 7b.—Agricultural Waste Management (Part 2)

(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	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Very limited		Very limited	
	Depth to saturated zone	0.99	Flooding	1.00
	Flooding	0.60	Seepage	1.00
	Too acid	0.42	Depth to saturated zone	0.99
2B:				
Appomattox	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.32	Too acid	1.00
	Depth to saturated zone	0.32	Depth to saturated zone	0.32
Cullen	Somewhat limited		Very limited	
	Too acid	0.85	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.85
	Low adsorption	0.01	Low adsorption	0.01
2C:				
Appomattox	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
Cullen	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.85	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.85
3A:				
Batteau	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
			Seepage	1.00

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
4B:				
Beckham-------------	Somewhat limited		Very limited	
	Too acid	0.42	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.42
4C:				
Beckham-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
	Too acid	0.42	Too acid	0.42
4D:				
Beckham-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
5B:				
Cecil---------------	Somewhat limited		Very limited	
	Too acid	0.85	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.85
6A:				
Chewacla------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	1.00	Seepage	1.00
7B:				
Cullen--------------	Somewhat limited		Very limited	
	Too acid	0.85	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.85
	Low adsorption	0.01	Low adsorption	0.01
8B:				
Iredell-------------	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too acid	0.85	Depth to bedrock	0.94

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8C:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
9E:				
Louisburg	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
10E:				
Manteo	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too acid	1.00
Rock outcrop	Not rated		Not rated	
11E:				
Manteo	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
12B:				
Mattaponi	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.32	Too acid	1.00
	Slow water movement	0.22		
Cecil	Somewhat limited		Very limited	
	Too acid	0.85	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.85

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:				
Mattaponi-----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
Cecil---------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.85	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.85
13B:				
Mayodan-------------	Somewhat limited		Very limited	
	Too acid	0.91	Seepage	1.00
	Too steep for surface application	0.32	Too acid	0.91
13C:				
Mayodan-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.91	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.91
13D:				
Mayodan-------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.91	Too acid	0.91
14B:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
	Too steep for surface application	0.32		

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
15B:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too acid	0.42	Too acid	0.42
	Too steep for surface application	0.32		
Poindexter----------	Somewhat limited		Very limited	
	Too acid	0.85	Seepage	1.00
	Depth to bedrock	0.46	Depth to bedrock	1.00
	Too steep for surface application	0.32	Too acid	0.85
15C:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	0.94
	Too steep for sprinkler application	0.60	Too acid	0.42
Poindexter----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	0.85	Depth to bedrock	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
15D:				
Mecklenburg---------	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Slow water movement	1.00	Too acid	0.42
Poindexter----------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.85	Depth to bedrock	1.00

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
16B:				
Nason	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Droughty	0.39	Too acid	1.00
	Too steep for surface application	0.32	Depth to bedrock	0.84
17B:				
Nason	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Droughty	0.39	Too acid	1.00
	Too steep for surface application	0.32	Depth to bedrock	0.84
Manteo	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too acid	1.00	Too acid	1.00
17C:				
Nason	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too acid	1.00
			Too steep for surface application	0.94
	Too acid	1.00		
	Too steep for sprinkler application	0.60		
Manteo	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too acid	1.00
17D:				
Nason	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
			Too acid	1.00
	Too acid	1.00		
Manteo	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00		

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation: Rating class and limiting features	Value	Overland flow of wastewater: Rating class and limiting features	Value
18B:				
Pacolet	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.32	Too acid	1.00
Louisburg	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Filtering capacity	0.99	Depth to bedrock	1.00
	Too acid	0.99	Too acid	0.99
18C:				
Pacolet	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
Louisburg	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Filtering capacity	0.99	Too acid	0.99
18D:				
Pacolet	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	1.00	Too acid	1.00
Louisburg	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
19E:				
Poindexter	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.85	Depth to bedrock	1.00

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:				
Riverview-----------	Somewhat limited		Very limited	
	Too acid	0.96	Flooding	1.00
	Flooding	0.60	Seepage	1.00
			Too acid	0.96
21A:				
State---------------	Somewhat limited		Very limited	
	Too acid	0.96	Seepage	1.00
			Too acid	0.96
			Flooding	0.40
22B:				
Tatum---------------	Somewhat limited		Very limited	
	Too acid	0.96	Seepage	1.00
	Too steep for surface application	0.32	Depth to bedrock	0.99
			Too acid	0.96
	Droughty	0.06		
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too acid	1.00	Too acid	1.00
22C:				
Tatum---------------	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Depth to bedrock	0.99
			Too acid	0.96
	Too acid	0.96		
	Too steep for sprinkler application	0.60		
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Too steep for surface application	1.00	Too acid	1.00
22D:				
Tatum---------------	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
			Depth to bedrock	0.99
	Too acid	0.96		
Manteo--------------	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
			Too steep for surface application	1.00
	Too steep for sprinkler application	1.00		

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
23B:				
Tatum	Somewhat limited		Very limited	
	Too acid	0.96	Seepage	1.00
	Too steep for surface application	0.32	Depth to bedrock	0.99
			Too acid	0.96
	Droughty	0.06		
24B:				
Turbeville	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.68	Too acid	0.99
	Too steep for surface application	0.32	Low adsorption	0.68
24C:				
Turbeville	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too acid	0.99
			Too steep for surface application	0.94
	Too acid	0.99		
	Low adsorption	0.68		
25B:				
Turbeville	Very limited		Very limited	
	Too acid	0.99	Seepage	1.00
	Low adsorption	0.68	Too acid	0.99
	Too steep for surface application	0.32	Low adsorption	0.68
Tatum	Somewhat limited		Very limited	
	Too acid	0.96	Seepage	1.00
	Too steep for surface application	0.32	Depth to bedrock	0.99
			Too acid	0.96
	Droughty	0.06		
25C:				
Turbeville	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Too acid	0.99
			Too steep for surface application	0.94
	Too acid	0.99		
	Low adsorption	0.68		
Tatum	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
			Depth to bedrock	0.99
			Too acid	0.96
	Too acid	0.96		
	Too steep for sprinkler application	0.60		

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
25D:				
Turbeville	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	0.99	Too acid	0.99
Tatum	Very limited		Very limited	
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Seepage	1.00
	Too acid	0.96	Depth to bedrock	0.99
26:				
Udorthents	Not rated		Not rated	
Urban land	Not rated		Not rated	
27B:				
Wedowee	Very limited		Very limited	
	Too acid	1.00	Seepage	1.00
	Too steep for surface application	0.32	Too acid	1.00
28C:				
Wedowee	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too acid	1.00	Too acid	1.00
	Too steep for sprinkler application	0.60	Too steep for surface application	0.94
Louisburg	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Depth to bedrock	1.00
	Filtering capacity	0.99	Too acid	0.99
28D:				
Wedowee	Very limited		Very limited	
	Too steep for surface application	1.00	Seepage	1.00
	Too steep for sprinkler application	1.00	Too steep for surface application	1.00
	Too acid	1.00	Too acid	1.00

Table 7b.—Agricultural Waste Management (Part 2)—Continued

Map symbol and soil name	Disposal of wastewater by irrigation		Overland flow of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Louisburg-----------	Very limited		Very limited	
	Droughty	1.00	Seepage	1.00
	Too steep for surface application	1.00	Too steep for surface application	1.00
	Too steep for sprinkler application	1.00	Depth to bedrock	1.00
29A:				
Wehadkee------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Too acid	0.77	Seepage	1.00
30A:				
Wingina-------------	Somewhat limited		Very limited	
	Flooding	0.60	Flooding	1.00
			Seepage	1.00
31A:				
Yogaville-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
			Seepage	1.00

Table 7c.—Agricultural Waste Management (Part 3)

(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	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Slow water movement	1.00	Flooding	0.60
	Flooding	0.60	Too acid	0.42
2B:				
Appomattox	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Depth to saturated zone	1.00	Too steep for surface application	0.32
	Slope	0.12	Depth to saturated zone	0.32
Cullen	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.85
	Slope	0.12	Too steep for surface application	0.32
			Low adsorption	0.01
2C:				
Appomattox	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Depth to saturated zone	1.00	Too acid	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
Cullen	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
			Too acid	0.85
3A:				
Batteau	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00		

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
4B:				
Beckham	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.42
	Slope	0.12	Too steep for surface application	0.32
	Too acid	0.03		
4C:				
Beckham	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
	Too acid	0.03	Too acid	0.42
4D:				
Beckham	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
	Too acid	0.03	Too acid	0.42
5B:				
Cecil	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.85
	Slope	0.12	Too steep for surface application	0.32
6A:				
Chewacla	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00	Too acid	1.00
7B:				
Cullen	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.85
	Slope	0.12	Too steep for surface application	0.32
			Low adsorption	0.01
8B:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.94

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8C:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slow water movement	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
9E:				
Louisburg	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
			Depth to bedrock	1.00
10E:				
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too acid	1.00
Rock outcrop	Not rated		Not rated	
11E:				
Manteo	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
12B:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Slope	0.12	Too steep for surface application	0.32
			Slow water movement	0.15
Cecil	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.85
	Slope	0.12	Too steep for surface application	0.32

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
12C:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	1.00
			Too steep for sprinkler irrigation	0.94
Cecil	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
			Too acid	0.85
13B:				
Mayodan	Very limited		Somewhat limited	
	Slow water movement	1.00	Too acid	0.91
	Slope	0.12	Too steep for surface application	0.32
13C:				
Mayodan	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
			Too acid	0.91
13D:				
Mayodan	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.91
14B:				
Mecklenburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.42
			Too steep for surface application	0.32

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
15B:				
Mecklenburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slow water movement	0.94
	Slope	0.12	Too acid	0.42
			Too steep for surface application	0.32
Poindexter	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too acid	0.85
	Slope	0.12	Too steep for surface application	0.32
15C:				
Mecklenburg	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
			Slow water movement	0.94
Poindexter	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
15D:				
Mecklenburg	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Slow water movement	0.94
Poindexter	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Depth to bedrock	1.00

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
16B:				
Nason	Very limited		Very limited	
	Depth to bedrock	1.00	Too acid	1.00
	Slow water movement	1.00	Depth to bedrock	0.84
	Slope	0.12	Too steep for surface application	0.32
17B:				
Nason	Very limited		Very limited	
	Depth to bedrock	1.00	Too acid	1.00
	Slow water movement	1.00	Depth to bedrock	0.84
	Slope	0.12	Too steep for surface application	0.32
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	0.32	Too acid	1.00
	Cobble content	0.28	Too steep for surface application	0.32
17C:				
Nason	Very limited		Very limited	
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too acid	1.00
	Slope	1.00	Too steep for sprinkler irrigation	0.94
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too acid	1.00
17D:				
Nason	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Too acid	1.00
Manteo	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too steep for sprinkler irrigation	1.00

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
18B:				
Pacolet	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Slope	0.12	Too steep for surface application	0.32
	Too acid	0.03		
Louisburg	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.12	Filtering capacity	0.99
			Too acid	0.99
18C:				
Pacolet	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00		
	Too acid	0.03	Too acid	1.00
			Too steep for sprinkler irrigation	0.94
Louisburg	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too steep for surface application	1.00
			Filtering capacity	0.99
18D:				
Pacolet	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00		
	Too acid	0.03	Too steep for sprinkler irrigation	1.00
			Too acid	1.00
Louisburg	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00		
			Too steep for sprinkler irrigation	1.00
			Depth to bedrock	1.00
19E:				
Poindexter	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00		
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Depth to bedrock	1.00

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
20A:				
Riverview	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Too acid	0.96
	Slow water movement	1.00	Flooding	0.60
	Flooding	0.60		
21A:				
State	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Too acid	0.96
	Slow water movement	1.00		
	Too acid	0.03		
22B:				
Tatum	Very limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99
	Slow water movement	1.00	Too acid	0.96
	Slope	0.12	Too steep for surface application	0.32
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	0.32	Too acid	1.00
	Cobble content	0.28	Too steep for surface application	0.32
22C:				
Tatum	Very limited		Very limited	
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00		
	Slope	1.00	Depth to bedrock	0.99
	Slope	1.00	Too acid	0.96
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	0.32		
			Too acid	1.00
22D:				
Tatum	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00		
	Slow water movement	1.00		
			Too steep for sprinkler irrigation	1.00
			Depth to bedrock	0.99

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Manteo	Very limited		Very limited	
	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	0.32	Too steep for sprinkler irrigation	1.00
23B:				
Tatum	Very limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99
	Slow water movement	1.00	Too acid	0.96
	Slope	0.12	Too steep for surface application	0.32
24B:				
Turbeville	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
	Slope	0.12	Low adsorption	0.68
			Too steep for surface application	0.32
24C:				
Turbeville	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.99
			Too steep for sprinkler irrigation	0.94
25B:				
Turbeville	Very limited		Very limited	
	Slow water movement	1.00	Too acid	0.99
	Slope	0.12	Low adsorption	0.68
			Too steep for surface application	0.32
Tatum	Very limited		Somewhat limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99
	Slow water movement	1.00	Too acid	0.96
	Slope	0.12	Too steep for surface application	0.32
25C:				
Turbeville	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	0.99
			Too steep for sprinkler irrigation	0.94

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
Tatum	Very limited		Very limited	
	Depth to bedrock	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Depth to bedrock	0.99
	Slope	1.00	Too acid	0.96
25D:				
Turbeville	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
			Too acid	0.99
Tatum	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
	Slow water movement	1.00	Depth to bedrock	0.99
26:				
Udorthents	Not rated		Not rated	
Urban land	Not rated		Not rated	
27B:				
Wedowee	Very limited		Very limited	
	Slow water movement	1.00	Too acid	1.00
	Too acid	0.55	Too steep for surface application	0.32
	Slope	0.12		
28C:				
Wedowee	Very limited		Very limited	
	Slow water movement	1.00	Too steep for surface application	1.00
	Slope	1.00	Too acid	1.00
	Too acid	0.55	Too steep for sprinkler irrigation	0.94
Louisburg	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Too steep for surface application	1.00
			Filtering capacity	0.99

Table 7c.—Agricultural Waste Management (Part 3)—Continued

Map symbol and soil name	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
	Rating class and limiting features	Value	Rating class and limiting features	Value
28D:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Slow water movement	1.00	Too steep for sprinkler irrigation	1.00
	Too acid	0.55	Too acid	1.00
Louisburg	Very limited		Very limited	
	Slope	1.00	Too steep for surface application	1.00
	Depth to bedrock	1.00	Too steep for sprinkler irrigation	1.00
			Depth to bedrock	1.00
29A:				
Wehadkee	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00	Too acid	0.77
30A:				
Wingina	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Flooding	0.60
	Slow water movement	1.00		
	Flooding	0.60		
31A:				
Yogaville	Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Flooding	1.00
	Slow water movement	1.00		

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	
1A:				
Altavista	loblolly pine	91	129	loblolly pine
	longleaf pine	87	114	
	white oak	77	57	
2B:				
Appomattox	eastern white pine	95	172	loblolly pine, yellow-poplar
	loblolly pine	80	114	
	northern red oak	70	57	
	shortleaf pine	76	114	
	Virginia pine	76	114	
	yellow-poplar	90	86	
Cullen	loblolly pine	80	114	eastern white pine, loblolly pine
	northern red oak	70	57	
	shortleaf pine	70	114	
	yellow-poplar	80	72	
2C:				
Appomattox	eastern white pine	95	172	loblolly pine, yellow-poplar
	loblolly pine	80	114	
	northern red oak	70	57	
	shortleaf pine	76	114	
	Virginia pine	76	114	
	yellow-poplar	90	86	
Cullen	loblolly pine	80	114	eastern white pine, loblolly pine
	northern red oak	70	57	
	shortleaf pine	70	114	
	yellow-poplar	80	72	
3A:				
Batteau	loblolly pine	100	157	American sycamore, loblolly pine, yellow-poplar
	sweetgum	110	129	
	yellow-poplar	100	143	
4B:				
Beckham	loblolly pine	66	100	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	90	86	
	Virginia pine	70	114	
	yellow-poplar	80	114	
4C:				
Beckham	loblolly pine	66	100	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	90	86	
	Virginia pine	70	114	
	yellow-poplar	80	114	
4D:				
Beckham	loblolly pine	66	100	loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	90	86	
	Virginia pine	70	114	
	yellow-poplar	80	114	

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	
5B:				
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
6A:				
Chewacla	loblolly pine	95	143	American sycamore, loblolly pine, sweetgum, yellow-poplar
	sweetgum	97	129	
	water oak	80	72	
	yellow-poplar	95	100	
7B:				
Cullen	loblolly pine	80	114	eastern white pine, loblolly pine
	northern red oak	70	57	
	shortleaf pine	70	114	
	yellow-poplar	80	72	
8B:				
Iredell	loblolly pine	67	86	eastern redcedar, loblolly pine
	post oak	44	29	
	shortleaf pine	58	86	
	white oak	47	29	
8C:				
Iredell	loblolly pine	67	86	eastern redcedar, loblolly pine
	post oak	44	29	
	shortleaf pine	58	86	
	white oak	47	29	
9E:				
Louisburg	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	
10E:				
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	100	
Rock outcrop	---	---	---	---
11E:				
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	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	
12B:				
Mattaponi	loblolly pine	80	114	loblolly pine, shortleaf pine
	sweetgum	76	72	
	Virginia pine	70	114	
	white oak	70	57	
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
12C:				
Mattaponi	loblolly pine	80	114	loblolly pine, shortleaf pine
	sweetgum	76	72	
	Virginia pine	70	114	
	white oak	70	57	
Cecil	loblolly pine	83	114	loblolly pine, shortleaf pine
	northern red oak	81	57	
	post oak	72	57	
	scarlet oak	81	57	
	shortleaf pine	69	114	
	southern red oak	79	57	
	sweetgum	76	72	
	Virginia pine	71	114	
	white oak	79	57	
	yellow-poplar	92	86	
13B:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
13C:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
13D:				
Mayodan	loblolly pine	87	129	loblolly pine
	shortleaf pine	70	114	
	Virginia pine	60	86	
	white oak	54	43	
14B:				
Mecklenburg	loblolly pine	79	114	loblolly pine, shortleaf pine
	shortleaf pine	64	100	
	Virginia pine	62	100	
	yellow-poplar	97	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	
15B:				
Mecklenburg-------------	loblolly pine-------	79	114	loblolly pine,
	shortleaf pine------	64	100	shortleaf pine
	Virginia pine-------	62	100	
	yellow-poplar-------	97	100	
Poindexter--------------	loblolly pine-------	70	86	loblolly pine,
	shortleaf pine------	60	86	shortleaf pine
	southern red oak----	60	43	
	Virginia pine-------	65	100	
15C:				
Mecklenburg-------------	loblolly pine-------	79	114	loblolly pine,
	shortleaf pine------	64	100	shortleaf pine
	Virginia pine-------	62	100	
	yellow-poplar-------	97	100	
Poindexter--------------	loblolly pine-------	70	86	loblolly pine,
	shortleaf pine------	60	86	shortleaf pine
	southern red oak----	60	43	
	Virginia pine-------	65	100	
15D:				
Mecklenburg-------------	loblolly pine-------	79	114	loblolly pine,
	shortleaf pine------	64	100	shortleaf pine
	Virginia pine-------	62	100	
	yellow-poplar-------	97	100	
Poindexter--------------	loblolly pine-------	70	86	loblolly pine,
	shortleaf pine------	60	86	shortleaf pine
	southern red oak----	60	43	
	Virginia pine-------	65	100	
16B:				
Nason-------------------	loblolly pine-------	85	114	loblolly pine
	northern red oak----	66	43	
	shortleaf pine------	66	100	
	Virginia pine-------	69	114	
17B:				
Nason-------------------	loblolly pine-------	85	114	loblolly pine
	northern red oak----	66	43	
	shortleaf pine------	66	100	
	Virginia pine-------	69	114	
Manteo------------------	loblolly pine-------	70	86	loblolly pine,
	northern red oak----	65	43	shortleaf pine
	shortleaf pine------	60	86	
	Virginia pine-------	65	100	
17C:				
Nason-------------------	loblolly pine-------	85	114	loblolly pine
	northern red oak----	66	43	
	shortleaf pine------	66	100	
	Virginia pine-------	69	114	
Manteo------------------	loblolly pine-------	70	86	loblolly pine,
	northern red oak----	65	43	shortleaf pine
	shortleaf pine------	60	86	
	Virginia pine-------	65	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	
17D:				
Nason	loblolly pine	85	114	loblolly pine
	northern red oak	66	43	
	shortleaf pine	66	100	
	Virginia pine	69	114	
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	100	
18B:				
Pacolet	loblolly pine	78	114	eastern white pine, loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	114	
	yellow-poplar	90	86	
Louisburg	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	
18C:				
Pacolet	loblolly pine	78	114	eastern white pine, loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	114	
	yellow-poplar	90	86	
Louisburg	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	
18D:				
Pacolet	loblolly pine	78	114	eastern white pine, loblolly pine, shortleaf pine, yellow-poplar
	shortleaf pine	70	114	
	yellow-poplar	90	86	
Louisburg	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	
19E:				
Poindexter	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	65	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	
20A:				
Riverview	loblolly pine	100	157	American sycamore, eastern cottonwood, loblolly pine, sweetgum, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	110	129	
21A:				
State	loblolly pine	86	129	black walnut, loblolly pine, yellow-poplar
	southern red oak	85	72	
	Virginia pine	85	129	
	yellow-poplar	100	114	
22B:				
Tatum	loblolly pine	78	114	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	100	
22C:				
Tatum	loblolly pine	78	114	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	100	
22D:				
Tatum	chestnut oak	68	100	loblolly pine
	loblolly pine	78	114	
	Virginia pine	68	100	
	white oak	65	43	
Manteo	loblolly pine	70	86	loblolly pine, shortleaf pine
	northern red oak	65	43	
	shortleaf pine	60	86	
	Virginia pine	65	100	
23B:				
Tatum	loblolly pine	78	114	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	
24B:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	yellow-poplar	84	86	

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	
24C:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	yellow-poplar	84	86	
25B:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Tatum	loblolly pine	78	114	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	
25C:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Tatum	loblolly pine	78	114	eastern white pine, loblolly pine, yellow-poplar
	northern red oak	72	57	
	Virginia pine	68	100	
	yellow-poplar	83	72	
25D:				
Turbeville	loblolly pine	80	114	loblolly pine, yellow-poplar
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	yellow-poplar	84	86	
Tatum	chestnut oak	68	100	loblolly pine
	loblolly pine	78	114	
	Virginia pine	68	100	
	white oak	65	43	
26:				
Udorthents	---	---	---	---
Urban land	---	---	---	---
27B:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	

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	
28C:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
Louisburg	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	
28D:				
Wedowee	loblolly pine	80	114	loblolly pine, shortleaf pine, Virginia pine, yellow-poplar
	northern red oak	70	57	
	shortleaf pine	70	114	
	southern red oak	70	57	
	Virginia pine	70	114	
	white oak	65	43	
Louisburg	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	
29A:				
Wehadkee	loblolly pine	93	143	green ash, loblolly pine, sweetgum, yellow-poplar
	sweetgum	94	114	
	water oak	91	86	
	willow oak	110	114	
	yellow-poplar	100	114	
30A:				
Wingina	loblolly pine	100	157	American sycamore, black walnut, green ash, loblolly pine, sweetgum, yellow-poplar
	sweetgum	100	143	
	yellow-poplar	110	129	
31A:				
Yogaville	sweetgum	94	114	American sycamore, loblolly pine, sweetgum, yellow-poplar
	yellow-poplar	100	114	

Table 9a.—Forestland Management (Part 1)

(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	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
1A:						
Altavista	Moderate		Moderately suited		Severe	
	Flooding	0.50	Flooding	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
2B:						
Appomattox	Moderate		Well suited		Slight	
	Low strength	0.50			Strength	0.10
Cullen	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
2C:						
Appomattox	Moderate		Moderately suited		Slight	
	Low strength	0.50	Slope	0.50	Strength	0.10
Cullen	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
3A:						
Batteau	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
4B:						
Beckham	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
4C:						
Beckham	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
4D:						
Beckham	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
5B:						
Cecil	Slight		Well suited		Moderate	
					Low strength	0.50
6A:						
Chewacla	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
			Wetness	0.50		
			Low strength	0.50		
7B:						
Cullen	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	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
8B:						
Iredell	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
			Wetness	0.50		
8C:						
Iredell	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
			Wetness	0.50		
9E:						
Louisburg	Severe		Poorly suited		Moderate	
	Slope	1.00	Slope	1.00	Low strength	0.50
10E:						
Manteo	Severe		Poorly suited		Moderate	
	Slope	1.00	Slope	1.00	Low strength	0.50
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Severe		Poorly suited		Moderate	
	Slope	1.00	Slope	1.00	Low strength	0.50
12B:						
Mattaponi	Slight		Well suited		Moderate	
					Low strength	0.50
Cecil	Slight		Well suited		Moderate	
					Low strength	0.50
12C:						
Mattaponi	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
Cecil	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
13B:						
Mayodan	Slight		Well suited		Moderate	
					Low strength	0.50
13C:						
Mayodan	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
13D:						
Mayodan	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
14B:						
Mecklenburg	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	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:						
Mecklenburg----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Poindexter----------	Slight		Well suited		Moderate	
					Low strength	0.50
15C:						
Mecklenburg----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Poindexter----------	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
15D:						
Mecklenburg----------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Poindexter----------	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
	Restrictive layer	0.50				
16B:						
Nason---------------	Slight		Well suited		Moderate	
					Low strength	0.50
17B:						
Nason---------------	Slight		Well suited		Moderate	
					Low strength	0.50
Manteo--------------	Severe		Well suited		Moderate	
	Restrictive layer	1.00			Low strength	0.50
17C:						
Nason---------------	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
Manteo--------------	Severe		Moderately suited		Moderate	
	Restrictive layer	1.00	Slope	0.50	Low strength	0.50
17D:						
Nason---------------	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
Manteo--------------	Severe		Poorly suited		Moderate	
	Restrictive layer	1.00	Slope	1.00	Low strength	0.50
	Slope	0.50				
18B:						
Pacolet-------------	Slight		Well suited		Moderate	
					Low strength	0.50
Louisburg-----------	Slight		Well suited		Moderate	
					Low strength	0.50

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	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:						
Pacolet	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
Louisburg	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
18D:						
Pacolet	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
Louisburg	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
19E:						
Poindexter	Severe		Poorly suited		Moderate	
	Slope	1.00	Slope	1.00	Low strength	0.50
	Low strength	0.50				
20A:						
Riverview	Moderate		Moderately suited		Severe	
	Flooding	0.50	Flooding	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
21A:						
State	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
22B:						
Tatum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Manteo	Severe		Well suited		Moderate	
	Restrictive layer	1.00			Low strength	0.50
22C:						
Tatum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Manteo	Severe		Moderately suited		Moderate	
	Restrictive layer	1.00	Slope	0.50	Low strength	0.50
22D:						
Tatum	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Manteo	Severe		Poorly suited		Moderate	
	Restrictive layer	1.00	Slope	1.00	Low strength	0.50
	Slope	0.50				
23B:						
Tatum	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
24B:						
Turbeville	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	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
24C:						
Turbeville----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
25B:						
Turbeville----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
Tatum---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Low strength	0.50	Low strength	1.00
25C:						
Turbeville----------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
Tatum---------------	Moderate		Moderately suited		Severe	
	Low strength	0.50	Slope	0.50	Low strength	1.00
			Low strength	0.50		
25D:						
Turbeville----------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
Tatum---------------	Moderate		Poorly suited		Severe	
	Slope	0.50	Slope	1.00	Low strength	1.00
			Low strength	0.50		
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Slight		Well suited		Moderate	
					Low strength	0.50
28C:						
Wedowee-------------	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
Louisburg-----------	Slight		Moderately suited		Moderate	
			Slope	0.50	Low strength	0.50
28D:						
Wedowee-------------	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
Louisburg-----------	Moderate		Poorly suited		Moderate	
	Slope	0.50	Slope	1.00	Low strength	0.50
29A:						
Wehadkee------------	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		

Table 9a.—Forestland Management (Part 1)—Continued

Map symbol and soil name	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
30A:						
Wingina-------------	Moderate		Moderately suited		Severe	
	Flooding	0.50	Flooding	0.50	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
31A:						
Yogaville-----------	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		

Table 9b.—Forestland Management (Part 2)

(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	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
1A:						
Altavista	Slight		Slight		Moderately suited	
					Flooding	0.50
					Low strength	0.50
2B:						
Appomattox	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
Cullen	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
2C:						
Appomattox	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
Cullen	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
3A:						
Batteau	Slight		Slight		Poorly suited	
					Flooding	1.00
					Low strength	0.50
4B:						
Beckham	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
4C:						
Beckham	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
					Low strength	0.50
4D:						
Beckham	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
5B:						
Cecil	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
6A:						
Chewacla	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	0.50
					Low strength	0.50
7B:						
Cullen	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	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
8B:						
Iredell	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
					Wetness	0.50
8C:						
Iredell	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
					Wetness	0.50
9E:						
Louisburg	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
10E:						
Manteo	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
12B:						
Mattaponi	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
Cecil	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
12C:						
Mattaponi	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
Cecil	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
13B:						
Mayodan	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
13C:						
Mayodan	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
13D:						
Mayodan	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
14B:						
Mecklenburg	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
15B:						
Mecklenburg	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	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
Poindexter	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
15C:						
Mecklenburg	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Poindexter	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
15D:						
Mecklenburg	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Poindexter	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
16B:						
Nason	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
17B:						
Nason	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
Manteo	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
17C:						
Nason	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
Manteo	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
17D:						
Nason	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Manteo	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
18B:						
Pacolet	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
Louisburg	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
18C:						
Pacolet	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
Louisburg	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
18D:						
Pacolet	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	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
Louisburg-----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
19E:						
Poindexter----------	Severe		Severe		Poorly suited	
	Slope/erodibility	0.75	Slope/erodibility	0.95	Slope	1.00
20A:						
Riverview-----------	Slight		Slight		Moderately suited	
					Flooding	0.50
					Low strength	0.50
21A:						
State---------------	Slight		Slight		Moderately suited	
					Low strength	0.50
22B:						
Tatum---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Manteo--------------	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
22C:						
Tatum---------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Manteo--------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
22D:						
Tatum---------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Manteo--------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
23B:						
Tatum---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
24B:						
Turbeville----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
24C:						
Turbeville----------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
25B:						
Turbeville----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50
Tatum---------------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Low strength	0.50

Table 9b.—Forestland Management (Part 2)—Continued

Map symbol and soil name	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
25C:						
Turbeville----------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
Tatum---------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
					Low strength	0.50
25D:						
Turbeville----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
Tatum---------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
					Low strength	0.50
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Slight		Moderate		Well suited	
			Slope/erodibility	0.50		
28C:						
Wedowee-------------	Slight		Severe		Moderately suited	
			Slope/erodibility	0.95	Slope	0.50
Louisburg-----------	Slight		Moderate		Moderately suited	
			Slope/erodibility	0.50	Slope	0.50
28D:						
Wedowee-------------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
Louisburg-----------	Moderate		Severe		Poorly suited	
	Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	1.00
29A:						
Wehadkee------------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50
30A:						
Wingina-------------	Slight		Slight		Moderately suited	
					Flooding	0.50
					Low strength	0.50
31A:						
Yogaville-----------	Slight		Slight		Poorly suited	
					Flooding	1.00
					Wetness	1.00
					Low strength	0.50

Table 9c.—Forestland Management (Part 3)

(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	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
1A:						
Altavista	Well suited		Well suited		Moderately suited	
					Low strength	0.50
2B:						
Appomattox	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Rock fragments	0.50		
			Slope	0.50		
			Stickiness; high plasticity index	0.50		
Cullen	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		
2C:						
Appomattox	Moderately suited		Moderately suited		Well suited	
	Stickiness; high plasticity index	0.50	Slope	0.50		
			Rock fragments	0.50		
			Stickiness; high plasticity index	0.50		
Cullen	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		
3A:						
Batteau	Well suited		Well suited		Moderately suited	
					Low strength	0.50
4B:						
Beckham	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
4C:						
Beckham	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
4D:						
Beckham	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
					Slope	0.50
5B:						
Cecil	Well suited		Moderately suited		Well suited	
			Slope	0.50		
6A:						
Chewacla	Well suited		Well suited		Moderately suited	
					Low strength	0.50

Table 9c.—Forestland Management (Part 3)—Continued

Map symbol and soil name	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:						
Cullen	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		
8B:						
Iredell	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
8C:						
Iredell	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
9E:						
Louisburg	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
10E:						
Manteo	Moderately suited		Unsuited		Moderately suited	
	Rock fragments	0.50	Slope	1.00	Slope	0.50
			Rock fragments	0.75		
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
	Rock fragments	0.50	Rock fragments	0.75		
12B:						
Mattaponi	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Cecil	Well suited		Moderately suited		Well suited	
			Slope	0.50		
12C:						
Mattaponi	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Cecil	Well suited		Moderately suited		Well suited	
			Slope	0.50		
13B:						
Mayodan	Poorly suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		

Table 9c.—Forestland Management (Part 3)—Continued

Map symbol and soil name	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
13C:						
Mayodan-------------	Poorly suited		Poorly suited		Well suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		
13D:						
Mayodan-------------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Slope	0.75	Slope	0.50
			Stickiness; high plasticity index	0.75		
14B:						
Mecklenburg---------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
15B:						
Mecklenburg---------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
Poindexter----------	Well suited		Moderately suited		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
15C:						
Mecklenburg---------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
			Slope	0.50		
Poindexter----------	Well suited		Moderately suited		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
15D:						
Mecklenburg---------	Poorly suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.75	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.75	Slope	0.50
Poindexter----------	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
			Rock fragments	0.50		
16B:						
Nason---------------	Well suited		Moderately suited		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
17B:						
Nason---------------	Well suited		Moderately suited		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
Manteo--------------	Moderately suited		Poorly suited		Well suited	
	Rock fragments	0.50	Rock fragments	0.75		
			Slope	0.50		

Table 9c.—Forestland Management (Part 3)—Continued

Map symbol and soil name	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
17C:						
Nason	Well suited		Moderately suited		Well suited	
			Slope	0.50		
			Rock fragments	0.50		
Manteo	Moderately suited		Poorly suited		Well suited	
	Rock fragments	0.50	Rock fragments	0.75		
			Slope	0.50		
17D:						
Nason	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
			Rock fragments	0.50		
Manteo	Moderately suited		Poorly suited		Moderately suited	
	Rock fragments	0.50	Rock fragments	0.75	Slope	0.50
			Slope	0.75		
18B:						
Pacolet	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Louisburg	Well suited		Moderately suited		Well suited	
			Slope	0.50		
18C:						
Pacolet	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Louisburg	Well suited		Moderately suited		Well suited	
			Slope	0.50		
18D:						
Pacolet	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
Louisburg	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
19E:						
Poindexter	Moderately suited		Unsuited		Poorly suited	
	Slope	0.50	Slope	1.00	Slope	1.00
			Rock fragments	0.50		
20A:						
Riverview	Well suited		Well suited		Moderately suited	
					Low strength	0.50
21A:						
State	Well suited		Well suited		Moderately suited	
					Low strength	0.50
22B:						
Tatum	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		
Manteo	Moderately suited		Poorly suited		Well suited	
	Rock fragments	0.50	Rock fragments	0.75		
			Slope	0.50		

Table 9c.—Forestland Management (Part 3)—Continued

Map symbol and soil name	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
22C:						
Tatum	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		
Manteo	Moderately suited		Poorly suited		Well suited	
	Rock fragments	0.50	Rock fragments	0.75		
			Slope	0.50		
22D:						
Tatum	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50
Manteo	Moderately suited		Poorly suited		Moderately suited	
	Rock fragments	0.50	Rock fragments	0.75	Slope	0.50
			Slope	0.75		
23B:						
Tatum	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		
24B:						
Turbeville	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
24C:						
Turbeville	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
25B:						
Turbeville	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
Tatum	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		
25C:						
Turbeville	Well suited		Moderately suited		Moderately suited	
			Slope	0.50	Low strength	0.50
Tatum	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		
25D:						
Turbeville	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Low strength	0.50
					Slope	0.50
Tatum	Moderately suited		Poorly suited		Moderately suited	
	Stickiness; high plasticity index	0.50	Slope	0.75	Low strength	0.50
			Stickiness; high plasticity index	0.50	Slope	0.50

Table 9c.—Forestland Management (Part 3)—Continued

Map symbol and soil name	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
26:						
Udorthents	Not rated		Not rated		Not rated	
Urban land	Not rated		Not rated		Not rated	
27B:						
Wedowee	Well suited		Moderately suited		Well suited	
			Slope	0.50		
28C:						
Wedowee	Well suited		Moderately suited		Well suited	
			Slope	0.50		
Louisburg	Well suited		Moderately suited		Well suited	
			Slope	0.50		
28D:						
Wedowee	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
Louisburg	Well suited		Poorly suited		Moderately suited	
			Slope	0.75	Slope	0.50
29A:						
Wehadkee	Well suited		Well suited		Moderately suited	
					Low strength	0.50
30A:						
Wingina	Well suited		Well suited		Moderately suited	
					Low strength	0.50
31A:						
Yogaville	Well suited		Well suited		Moderately suited	
					Low strength	0.50

Table 9d.—Forestland Management (Part 4)

(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	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Well suited		Well suited	
2B:				
Appomattox	Well suited		Well suited	
Cullen	Well suited		Well suited	
2C:				
Appomattox	Well suited		Well suited	
Cullen	Well suited		Well suited	
3A:				
Batteau	Well suited		Well suited	
4B:				
Beckham	Well suited		Well suited	
4C:				
Beckham	Well suited		Well suited	
4D:				
Beckham	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
5B:				
Cecil	Well suited		Well suited	
6A:				
Chewacla	Well suited		Well suited	
7B:				
Cullen	Well suited		Well suited	
8B:				
Iredell	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
8C:				
Iredell	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
9E:				
Louisburg	Unsuited		Unsuited	
	Slope	1.00	Slope	1.00
10E:				
Manteo	Poorly suited		Unsuited	
	Slope	0.50	Restrictive layer	1.00
	Rock fragments	0.50	Slope	0.50

Table 9d.—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop	Not rated		Not rated	
11E:				
Manteo	Unsuited		Unsuited	
	Slope	1.00	Slope	1.00
	Rock fragments	0.50	Restrictive layer	1.00
12B:				
Mattaponi	Well suited		Well suited	
Cecil	Well suited		Well suited	
12C:				
Mattaponi	Well suited		Well suited	
Cecil	Well suited		Well suited	
13B:				
Mayodan	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
13C:				
Mayodan	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
13D:				
Mayodan	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness; high plasticity index	0.50		
14B:				
Mecklenburg	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
15B:				
Mecklenburg	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Poindexter	Well suited		Well suited	
15C:				
Mecklenburg	Poorly suited		Well suited	
	Stickiness; high plasticity index	0.50		
Poindexter	Well suited		Well suited	
15D:				
Mecklenburg	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness; high plasticity index	0.50		

Table 9d.—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Poindexter----------	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
16B:				
Nason---------------	Well suited		Well suited	
17B:				
Nason---------------	Well suited		Well suited	
Manteo--------------	Poorly suited		Unsuited	
	Rock fragments	0.50	Restrictive layer	1.00
17C:				
Nason---------------	Well suited		Well suited	
Manteo--------------	Poorly suited		Unsuited	
	Rock fragments	0.50	Restrictive layer	1.00
17D:				
Nason---------------	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Manteo--------------	Poorly suited		Unsuited	
	Slope	0.50	Restrictive layer	1.00
	Rock fragments	0.50	Slope	0.50
18B:				
Pacolet-------------	Well suited		Well suited	
Louisburg-----------	Well suited		Well suited	
18C:				
Pacolet-------------	Well suited		Well suited	
Louisburg-----------	Well suited		Well suited	
18D:				
Pacolet-------------	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Louisburg-----------	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
19E:				
Poindexter----------	Unsuited		Unsuited	
	Slope	1.00	Slope	1.00
20A:				
Riverview-----------	Well suited		Well suited	
21A:				
State---------------	Well suited		Well suited	
22B:				
Tatum---------------	Well suited		Well suited	
Manteo--------------	Poorly suited		Unsuited	
	Rock fragments	0.50	Restrictive layer	1.00

Table 9d.—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
22C:				
Tatum	Well suited		Well suited	
Manteo	Poorly suited		Unsuited	
	Rock fragments	0.50	Restrictive layer	1.00
22D:				
Tatum	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Manteo	Poorly suited		Unsuited	
	Slope	0.50	Restrictive layer	1.00
	Rock fragments	0.50	Slope	0.50
23B:				
Tatum	Well suited		Well suited	
24B:				
Turbeville	Well suited		Well suited	
24C:				
Turbeville	Well suited		Well suited	
25B:				
Turbeville	Well suited		Well suited	
Tatum	Well suited		Well suited	
25C:				
Turbeville	Well suited		Well suited	
Tatum	Well suited		Well suited	
25D:				
Turbeville	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Tatum	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
26:				
Udorthents	Not rated		Not rated	
Urban land	Not rated		Not rated	
27B:				
Wedowee	Well suited		Well suited	
28C:				
Wedowee	Well suited		Well suited	
Louisburg	Well suited		Well suited	
28D:				
Wedowee	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Louisburg	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50

Table 9d.—Forestland Management (Part 4)—Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
29A:				
Wehadkee	Well suited		Well suited	
30A:				
Wingina	Well suited		Well suited	
31A:				
Yogaville	Well suited		Well suited	

Table 9e.—Forestland Management (Part 5)

(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	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Moderate		Low	
	Texture/rock fragments	0.50		
2B:				
Appomattox	Moderate		Low	
	Texture/rock fragments	0.50		
Cullen	Low		Low	
2C:				
Appomattox	Moderate		Low	
	Texture/rock fragments	0.50		
Cullen	Low		Low	
3A:				
Batteau	Low		Low	
	Texture/rock fragments	0.10		
4B:				
Beckham	Low		Low	
4C:				
Beckham	Low		Low	
4D:				
Beckham	Low		Low	
5B:				
Cecil	Moderate		Low	
	Texture/rock fragments	0.50		
6A:				
Chewacla	Low		High	
	Texture/surface depth/rock fragments	0.10	Wetness	1.00
7B:				
Cullen	Low		Low	
8B:				
Iredell	Moderate		Low	
	Texture/rock fragments	0.50		

Table 9e.—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
8C:				
Iredell-------------	Moderate		Low	
	Texture/rock fragments	0.50		
9E:				
Louisburg-----------	High		Low	
	Texture/rock fragments	1.00		
10E:				
Manteo--------------	High		Low	
	Texture/slope/rock fragments	1.00		
Rock outcrop--------	Not rated		Not rated	
11E:				
Manteo--------------	High		Low	
	Texture/slope/rock fragments	1.00		
12B:				
Mattaponi-----------	Moderate		Low	
	Texture/rock fragments	0.50		
Cecil---------------	Moderate		Low	
	Texture/rock fragments	0.50		
12C:				
Mattaponi-----------	Moderate		Low	
	Texture/rock fragments	0.50		
Cecil---------------	Moderate		Low	
	Texture/rock fragments	0.50		
13B:				
Mayodan-------------	Moderate		Low	
	Texture/rock fragments	0.50		
13C:				
Mayodan-------------	Moderate		Low	
	Texture/rock fragments	0.50		
13D:				
Mayodan-------------	Moderate		Low	
	Texture/rock fragments	0.50		

Table 9e.—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value
14B:				
Mecklenburg	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
15B:				
Mecklenburg	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Poindexter	Moderate		Low	
	Texture/rock fragments	0.50		
15C:				
Mecklenburg	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Poindexter	Moderate		Low	
	Texture/rock fragments	0.50		
15D:				
Mecklenburg	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Poindexter	Moderate		Low	
	Texture/rock fragments	0.50		
16B:				
Nason	Low		Low	
	Texture/rock fragments	0.10		
17B:				
Nason	Low		Low	
	Texture/rock fragments	0.10		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		
17C:				
Nason	Low		Low	
	Texture/rock fragments	0.10		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		

Table 9e.—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
17D:				
Nason	Low		Low	
	Texture/rock fragments	0.10		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		
18B:				
Pacolet	Moderate		Low	
	Texture/rock fragments	0.50		
Louisburg	High		Low	
	Texture/rock fragments	1.00		
18C:				
Pacolet	Moderate		Low	
	Texture/rock fragments	0.50		
Louisburg	High		Low	
	Texture/rock fragments	1.00		
18D:				
Pacolet	Moderate		Low	
	Texture/rock fragments	0.50		
Louisburg	High		Low	
	Texture/rock fragments	1.00		
19E:				
Poindexter	Moderate		Low	
	Texture/slope/rock fragments	0.50		
20A:				
Riverview	Moderate		Low	
	Texture/rock fragments	0.50		
21A:				
State	Moderate		Low	
	Texture/rock fragments	0.50		
22B:				
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		

Table 9e.—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
22C:				
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		
22D:				
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		
Manteo	Moderate		Low	
	Texture/rock fragments	0.50		
23B:				
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		
24B:				
Turbeville	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
24C:				
Turbeville	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
25B:				
Turbeville	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		
25C:				
Turbeville	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Tatum	Moderate		Low	
	Texture/rock fragments	0.50		

Table 9e.—Forestland Management (Part 5)—Continued

Map symbol and soil name	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
25D:				
Turbeville----------	Moderate		Low	
	Texture/surface depth/rock fragments	0.50		
Tatum---------------	Moderate		Low	
	Texture/rock fragments	0.50		
26:				
Udorthents----------	Not rated		Not rated	
Urban land----------	Not rated		Not rated	
27B:				
Wedowee-------------	Moderate		Moderate	
	Texture/rock fragments	0.50	Soil reaction	0.50
28C:				
Wedowee-------------	Moderate		Moderate	
	Texture/rock fragments	0.50	Soil reaction	0.50
Louisburg-----------	High		Low	
	Texture/rock fragments	1.00		
28D:				
Wedowee-------------	Moderate		Moderate	
	Texture/rock fragments	0.50	Soil reaction	0.50
Louisburg-----------	High		Low	
	Texture/rock fragments	1.00		
29A:				
Wehadkee------------	Low		High	
	Texture/rock fragments	0.10	Wetness	1.00
30A:				
Wingina-------------	Low		Low	
	Texture/rock fragments	0.10		
31A:				
Yogaville-----------	Low		High	
	Texture/rock fragments	0.10	Wetness	1.00

Table 10a.—Recreational Development (Part 1)

(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	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:						
Altavista-----------	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.19	Flooding	0.60
	Depth to saturated zone	0.39			Depth to saturated zone	0.39
2B:						
Appomattox----------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.79	Gravel content	0.79	Gravel content	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
					Slow water movement	0.15
Cullen--------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.56
2C:						
Appomattox----------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.79	Gravel content	0.79	Slope	1.00
	Slope	0.37	Slope	0.37	Gravel content	1.00
	Slow water movement	0.15	Slow water movement	0.15	Slow water movement	0.15
Cullen--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.56
3A:						
Batteau-------------	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.48	Flooding	1.00
	Depth to saturated zone	0.81	Flooding	0.40	Depth to saturated zone	0.81
4B:						
Beckham-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
4C:						
Beckham-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
4D:						
Beckham-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
5B:						
Cecil---------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.44
6A:						
Chewacla------------	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

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7B:						
Cullen	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.56
8B:						
Iredell	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.88
8C:						
Iredell	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Slow water movement	1.00
	Slope	0.37	Slope	0.37	Depth to saturated zone	0.98
9E:						
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Depth to bedrock	0.65
10E:						
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
12B:						
Mattaponi	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15	Slope	0.88
					Gravel content	0.44
					Slow water movement	0.15
Cecil	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.44
12C:						
Mattaponi	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
	Slow water movement	0.15	Slow water movement	0.15	Gravel content	0.44
					Slow water movement	0.15

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cecil---------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.44
13B:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
					Slope	0.88
13C:						
Mayodan-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
	Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
13D:						
Mayodan-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
14B:						
Mecklenburg---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
					Gravel content	0.44
15B:						
Mecklenburg---------	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Slope	0.88
					Gravel content	0.44
Poindexter----------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.95	Gravel content	0.95	Gravel content	1.00
					Slope	0.88
					Depth to bedrock	0.46
15C:						
Mecklenburg---------	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.94	Slow water movement	0.94	Slope	1.00
	Slope	0.37	Slope	0.37	Slow water movement	0.94
					Gravel content	0.44
Poindexter----------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.95	Gravel content	0.95	Gravel content	1.00
	Slope	0.37	Slope	0.37	Slope	1.00
					Depth to bedrock	0.46
15D:						
Mecklenburg---------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.94	Slow water movement	0.94	Slow water movement	0.94
					Gravel content	0.44

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
Poindexter----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.95	Gravel content	0.95	Slope	1.00
					Depth to bedrock	0.46
16B:						
Nason---------------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.61	Gravel content	0.61	Gravel content	1.00
					Slope	0.88
17B:						
Nason---------------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.61	Gravel content	0.61	Gravel content	1.00
					Slope	0.88
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
	Gravel content	0.30	Gravel content	0.30	Depth to bedrock	1.00
					Slope	0.88
17C:						
Nason---------------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.61	Gravel content	0.61	Slope	1.00
	Slope	0.37	Slope	0.37	Gravel content	1.00
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
17D:						
Nason---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.61	Gravel content	0.61	Gravel content	1.00
Manteo--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
18B:						
Pacolet-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.68
Louisburg-----------	Somewhat limited		Somewhat limited		Very limited	
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Slope	0.88
					Depth to bedrock	0.65
18C:						
Pacolet-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.68
Louisburg-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Depth to bedrock	0.65

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	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
18D:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.68
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Depth to bedrock	0.65
19E:						
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Gravel content	1.00
	Gravel content	0.95	Gravel content	0.95	Slope	1.00
					Depth to bedrock	0.46
20A:						
Riverview	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
21A:						
State	Very limited		Not limited		Not limited	
	Flooding	1.00				
22B:						
Tatum	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.68
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Gravel content	1.00
	Gravel content	0.30	Gravel content	0.30	Depth to bedrock	1.00
					Slope	0.88
22C:						
Tatum	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.68
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Slope	0.37	Slope	0.37	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
22D:						
Tatum	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.68
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Gravel content	0.30	Gravel content	0.30	Gravel content	1.00
23B:						
Tatum	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.68

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24B:						
Turbeville----------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
24C:						
Turbeville----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
25B:						
Turbeville----------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
Tatum---------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.68
25C:						
Turbeville----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
Tatum---------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.68
25D:						
Turbeville----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Tatum---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.68
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.88
					Gravel content	0.44
28C:						
Wedowee-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
					Gravel content	0.44
Louisburg-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Depth to bedrock	0.65
28D:						
Wedowee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.44
Louisburg-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Gravel content	0.12	Gravel content	0.12	Gravel content	1.00
					Depth to bedrock	0.65

Table 10a.—Recreational Development (Part 1)—Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29A:						
Wehadkee------------	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
30A:						
Wingina-------------	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Flooding	0.60
31A:						
Yogaville-----------	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

Table 10b.—Recreational Development (Part 2)

(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	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
1A:						
Altavista-----------	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
					Depth to saturated zone	0.19
2B:						
Appomattox----------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.79
					Droughty	0.01
Cullen--------------	Not limited		Not limited		Not limited	
2C:						
Appomattox----------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.79
					Slope	0.37
					Droughty	0.01
Cullen--------------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
3A:						
Batteau-------------	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
	Depth to saturated zone	0.11	Depth to saturated zone	0.11	Depth to saturated zone	0.48
4B:						
Beckham-------------	Not limited		Not limited		Not limited	
4C:						
Beckham-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
4D:						
Beckham-------------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
5B:						
Cecil---------------	Not limited		Not limited		Not limited	
6A:						
Chewacla------------	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
7B:						
Cullen--------------	Not limited		Not limited		Not limited	
8B:						
Iredell-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	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
8C:						
Iredell	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	0.37
9E:						
Louisburg	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.96	Slope	1.00
					Droughty	0.91
					Depth to bedrock	0.65
10E:						
Manteo	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.68	Droughty	1.00
					Depth to bedrock	1.00
					Slope	1.00
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Droughty	1.00
					Depth to bedrock	1.00
12B:						
Mattaponi	Not limited		Not limited		Not limited	
Cecil	Not limited		Not limited		Not limited	
12C:						
Mattaponi	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Cecil	Not limited		Not limited		Somewhat limited	
					Slope	0.37
13B:						
Mayodan	Not limited		Not limited		Somewhat limited	
					Gravel content	0.01
13C:						
Mayodan	Not limited		Not limited		Somewhat limited	
					Slope	0.37
					Gravel content	0.01
13D:						
Mayodan	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Gravel content	0.01
14B:						
Mecklenburg	Not limited		Not limited		Not limited	
15B:						
Mecklenburg	Not limited		Not limited		Not limited	
Poindexter	Not limited		Not limited		Somewhat limited	
					Gravel content	0.95
					Depth to bedrock	0.46

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	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
15C:						
Mecklenburg---------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Poindexter----------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.95
					Depth to bedrock	0.46
					Slope	0.37
15D:						
Mecklenburg---------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
Poindexter----------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Gravel content	0.95
					Depth to bedrock	0.46
16B:						
Nason---------------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.61
17B:						
Nason---------------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.61
Manteo--------------	Not limited		Not limited		Very limited	
					Droughty	1.00
					Depth to bedrock	1.00
					Large stones content	0.84
17C:						
Nason---------------	Not limited		Not limited		Somewhat limited	
					Gravel content	0.61
					Slope	0.37
Manteo--------------	Not limited		Not limited		Very limited	
					Droughty	1.00
					Depth to bedrock	1.00
					Large stones content	0.84
17D:						
Nason---------------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Gravel content	0.61
Manteo--------------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Droughty	1.00
					Depth to bedrock	1.00
18B:						
Pacolet-------------	Not limited		Not limited		Not limited	
Louisburg-----------	Not limited		Not limited		Somewhat limited	
					Droughty	0.91
					Depth to bedrock	0.65
					Gravel content	0.12

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	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
18C:						
Pacolet	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Louisburg	Not limited		Not limited		Somewhat limited	
					Droughty	0.91
					Depth to bedrock	0.65
					Slope	0.37
18D:						
Pacolet	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
Louisburg	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Droughty	0.91
					Depth to bedrock	0.65
19E:						
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel content	0.95
					Depth to bedrock	0.46
20A:						
Riverview	Not limited		Not limited		Somewhat limited	
					Flooding	0.60
21A:						
State	Not limited		Not limited		Not limited	
22B:						
Tatum	Not limited		Not limited		Not limited	
Manteo	Not limited		Not limited		Very limited	
					Droughty	1.00
					Depth to bedrock	1.00
					Large stones content	0.84
22C:						
Tatum	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Manteo	Not limited		Not limited		Very limited	
					Droughty	1.00
					Depth to bedrock	1.00
					Large stones content	0.84
22D:						
Tatum	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
Manteo	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Droughty	1.00
					Depth to bedrock	1.00
23B:						
Tatum	Not limited		Not limited		Not limited	

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	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
24B:						
Turbeville----------	Not limited		Not limited		Not limited	
24C:						
Turbeville----------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
25B:						
Turbeville----------	Not limited		Not limited		Not limited	
Tatum---------------	Not limited		Not limited		Not limited	
25C:						
Turbeville----------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Tatum---------------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
25D:						
Turbeville----------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
Tatum---------------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Not limited		Not limited		Not limited	
28C:						
Wedowee-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.37
Louisburg-----------	Not limited		Not limited		Somewhat limited	
					Droughty	0.91
					Depth to bedrock	0.65
					Slope	0.37
28D:						
Wedowee-------------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
Louisburg-----------	Somewhat limited		Not limited		Very limited	
	Slope	0.50			Slope	1.00
					Droughty	0.91
					Depth to bedrock	0.65
29A:						
Wehadkee------------	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
30A:						
Wingina-------------	Not limited		Not limited		Somewhat limited	
					Flooding	0.60

Table 10b.—Recreational Development (Part 2)—Continued

Map symbol and soil name	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
31A:						
Yogaville-----------	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

Table 11a.—Building Site Development (Part 1)

(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	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
1A:						
Altavista	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
2B:						
Appomattox	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to saturated zone	0.92	Shrink-swell	0.50
					Slope	0.12
Cullen	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
2C:						
Appomattox	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Depth to saturated zone	0.92	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Cullen	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
3A:						
Batteau	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.81	Depth to saturated zone	1.00	Depth to saturated zone	0.81
4B:						
Beckham	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
4C:						
Beckham	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
4D:						
Beckham	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
5B:						
Cecil	Not limited		Not limited		Somewhat limited	
					Slope	0.12
6A:						
Chewacla	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

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	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
7B:						
Cullen	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
8B:						
Iredell	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
					Slope	0.12
8C:						
Iredell	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	0.37	Slope	0.37	Shrink-swell	0.50
9E:						
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.64		
10E:						
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
12B:						
Mattaponi	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.35	Slope	0.12
Cecil	Not limited		Not limited		Somewhat limited	
					Slope	0.12
12C:						
Mattaponi	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
			Depth to saturated zone	0.35		
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
13B:						
Mayodan	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
13C:						
Mayodan	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
13D:						
Mayodan	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
14B:						
Mecklenburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
15B:						
Mecklenburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
Poindexter	Not limited		Somewhat limited		Somewhat limited	
			Depth to soft bedrock	0.46	Slope	0.12
			Depth to hard bedrock	0.32		
15C:						
Mecklenburg	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Poindexter	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Depth to soft bedrock	0.46	Slope	1.00
			Slope	0.37		
			Depth to hard bedrock	0.32		
15D:						
Mecklenburg	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
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.46		
			Depth to hard bedrock	0.32		
16B:						
Nason	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	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
17B:						
Nason----------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
Manteo---------------	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Slope	0.12
					Large stones content	0.01
17C:						
Nason----------------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Manteo---------------	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Slope	0.37	Slope	0.37	Slope	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
17D:						
Nason----------------	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
Manteo---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
18B:						
Pacolet--------------	Not limited		Not limited		Somewhat limited	
					Slope	0.12
Louisburg------------	Not limited		Somewhat limited		Somewhat limited	
			Depth to soft bedrock	0.64	Slope	0.12
18C:						
Pacolet--------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
Louisburg------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Depth to soft bedrock	0.64	Slope	1.00
			Slope	0.37		
18D:						
Pacolet--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Louisburg------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.64		

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	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
19E:						
Poindexter----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.46		
			Depth to hard bedrock	0.32		
20A:						
Riverview-----------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
21A:						
State---------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.15		
22B:						
Tatum---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Slope	0.12
					Large stones content	0.01
22C:						
Tatum---------------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Slope	0.37	Slope	0.37	Slope	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
22D:						
Tatum---------------	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
Manteo--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
	Large stones content	0.01	Large stones content	0.01	Large stones content	0.01
23B:						
Tatum---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	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
24B:						
Turbeville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
24C:						
Turbeville----------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
25B:						
Turbeville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
Tatum---------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
					Slope	0.12
25C:						
Turbeville----------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
Tatum---------------	Somewhat limited		Somewhat limited		Very limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
	Slope	0.37	Slope	0.37	Shrink-swell	0.50
25D:						
Turbeville----------	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
Tatum---------------	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
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Not limited		Not limited		Somewhat limited	
					Slope	0.12
28C:						
Wedowee-------------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Slope	0.37	Slope	1.00
Louisburg-----------	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.37	Depth to soft bedrock	0.64	Slope	1.00
			Slope	0.37		
28D:						
Wedowee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 11a.—Building Site Development (Part 1)—Continued

Map symbol and soil name	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
Louisburg-----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Depth to soft bedrock	0.64		
29A:						
Wehadkee------------	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
30A:						
Wingina-------------	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.61		
31A:						
Yogaville-----------	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

Table 11b.—Building Site Development (Part 2)

(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	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
1A:						
Altavista	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
	Frost action	0.50	Flooding	0.60	Depth to saturated zone	0.19
	Low strength	0.22	Cutbanks cave	0.10		
2B:						
Appomattox	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	0.92	Gravel content	0.79
	Shrink-swell	0.50	Too clayey	0.50	Droughty	0.01
	Frost action	0.50	Cutbanks cave	0.10		
Cullen	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Too clayey	1.00		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.10				
2C:						
Appomattox	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	0.92	Gravel content	0.79
	Shrink-swell	0.50	Too clayey	0.50	Slope	0.37
	Frost action	0.50	Slope	0.37	Droughty	0.01
Cullen	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Too clayey	1.00	Slope	0.37
	Frost action	0.50	Slope	0.37		
	Slope	0.37	Cutbanks cave	0.10		
3A:						
Batteau	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.48
	Frost action	0.50	Cutbanks cave	0.10		
4B:						
Beckham	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Too clayey	0.28		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.10				
4C:						
Beckham	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.37	Slope	0.37
	Frost action	0.50	Too clayey	0.28		
	Slope	0.37	Cutbanks cave	0.10		
4D:						
Beckham	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Too clayey	0.28		
	Frost action	0.50	Cutbanks cave	0.10		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
5B:						
Cecil	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Too clayey	0.50		
	Low strength	0.10	Cutbanks cave	0.10		
6A:						
Chewacla	Very limited		Very limited		Very limited	
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Cutbanks cave	1.00	Depth to saturated zone	0.99
	Frost action	0.50	Flooding	0.80		
7B:						
Cullen	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Too clayey	1.00		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.10				
8B:						
Iredell	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
8C:						
Iredell	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.75	Too clayey	0.50	Slope	0.37
	Shrink-swell	0.50	Slope	0.37		
9E:						
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
			Depth to soft bedrock	0.64	Depth to bedrock	0.65
10E:						
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
					Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Large stones content	0.01		
Rock outcrop	Not rated		Not rated		Not rated	
11E:						
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
					Droughty	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Frost action	0.50	Large stones content	0.01		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
12B:						
Mattaponi	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.88		
	Shrink-swell	0.50	Depth to saturated zone	0.35		
	Frost action	0.50	Cutbanks cave	0.10		
Cecil	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Too clayey	0.50		
	Low strength	0.10	Cutbanks cave	0.10		
12C:						
Mattaponi	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.88	Slope	0.37
	Shrink-swell	0.50	Slope	0.37		
	Frost action	0.50	Depth to saturated zone	0.35		
Cecil	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Too clayey	0.50	Slope	0.37
	Slope	0.37	Slope	0.37		
	Low strength	0.10	Cutbanks cave	0.10		
13B:						
Mayodan	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.28	Gravel content	0.01
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
13C:						
Mayodan	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.37	Slope	0.37
	Shrink-swell	0.50	Too clayey	0.28	Gravel content	0.01
	Frost action	0.50	Cutbanks cave	0.10		
13D:						
Mayodan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.28	Gravel content	0.01
	Shrink-swell	0.50	Cutbanks cave	0.10		
14B:						
Mecklenburg	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
15B:						
Mecklenburg	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
Poindexter	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.46	Gravel content	0.95
	Frost action	0.50			Depth to bedrock	0.46
			Depth to hard bedrock	0.32		
			Cutbanks cave	0.10		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
15C:						
Mecklenburg	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.50	Slope	0.37
	Shrink-swell	0.50	Slope	0.37		
	Frost action	0.50	Cutbanks cave	0.10		
Poindexter	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to soft bedrock	0.46	Gravel content	0.95
	Frost action	0.50			Depth to bedrock	0.46
	Slope	0.37	Slope	0.37	Slope	0.37
	Slope	0.37	Depth to hard bedrock	0.32		
15D:						
Mecklenburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.46	Gravel content	0.95
	Frost action	0.50			Depth to bedrock	0.46
			Depth to hard bedrock	0.32		
16B:						
Nason	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	0.10	Gravel content	0.61
	Shrink-swell	0.50				
	Frost action	0.50				
17B:						
Nason	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Cutbanks cave	0.10	Gravel content	0.61
	Shrink-swell	0.50				
	Frost action	0.50				
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
					Depth to bedrock	1.00
	Frost action	0.50	Large stones content	0.01	Large stones content	0.84
	Large stones content	0.01				
17C:						
Nason	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.37	Gravel content	0.61
	Shrink-swell	0.50	Cutbanks cave	0.10	Slope	0.37
	Frost action	0.50				
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
					Depth to bedrock	1.00
	Frost action	0.50	Slope	0.37	Large stones content	0.84
	Slope	0.37	Large stones content	0.01		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
17D:						
Nason	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Cutbanks cave	0.10	Gravel content	0.61
	Shrink-swell	0.50				
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
					Droughty	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Frost action	0.50	Large stones content	0.01		
18B:						
Pacolet	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Too clayey	0.50		
	Low strength	0.10	Cutbanks cave	0.10		
Louisburg	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
			Depth to soft bedrock	0.64	Depth to bedrock	0.65
					Gravel content	0.12
18C:						
Pacolet	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Too clayey	0.50	Slope	0.37
	Slope	0.37	Slope	0.37		
	Low strength	0.10	Cutbanks cave	0.10		
Louisburg	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
	Slope	0.37	Depth to soft bedrock	0.64	Depth to bedrock	0.65
					Slope	0.37
			Slope	0.37		
18D:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Too clayey	0.50		
	Low strength	0.10	Cutbanks cave	0.10		
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
			Depth to soft bedrock	0.64	Depth to bedrock	0.65
19E:						
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to soft bedrock	0.46	Gravel content	0.95
	Frost action	0.50			Depth to bedrock	0.46
			Depth to hard bedrock	0.32		
20A:						
Riverview	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.61	Flooding	0.60
	Frost action	0.50				
			Flooding	0.60		
			Cutbanks cave	0.10		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
21A:						
State	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.15		
	Frost action	0.50	Cutbanks cave	0.10		
	Flooding	0.40	Too clayey	0.02		
22B:						
Tatum	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
					Depth to bedrock	1.00
	Frost action	0.50	Large stones content	0.01	Large stones content	0.84
	Large stones content	0.01				
22C:						
Tatum	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.50	Slope	0.37
	Shrink-swell	0.50	Slope	0.37		
	Frost action	0.50	Cutbanks cave	0.10		
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Droughty	1.00
					Depth to bedrock	1.00
	Frost action	0.50	Slope	0.37	Large stones content	0.84
	Slope	0.37	Large stones content	0.01		
22D:						
Tatum	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
Manteo	Very limited		Very limited		Very limited	
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Slope	1.00
					Droughty	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Frost action	0.50	Large stones content	0.01		
23B:						
Tatum	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
24B:						
Turbeville	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Too clayey	0.12		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.08				

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
24C:						
Turbeville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.37	Slope	0.37
	Frost action	0.50	Too clayey	0.12		
	Slope	0.37	Cutbanks cave	0.10		
25B:						
Turbeville----------	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Too clayey	0.12		
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.08				
Tatum---------------	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
25C:						
Turbeville----------	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.37	Slope	0.37
	Frost action	0.50	Too clayey	0.12		
	Slope	0.37	Cutbanks cave	0.10		
Tatum---------------	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.50	Slope	0.37
	Shrink-swell	0.50	Slope	0.37		
	Frost action	0.50	Cutbanks cave	0.10		
25D:						
Turbeville----------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Too clayey	0.12		
	Frost action	0.50	Cutbanks cave	0.10		
Tatum---------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.50		
	Shrink-swell	0.50	Cutbanks cave	0.10		
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Somewhat limited		Somewhat limited		Not limited	
	Frost action	0.50	Cutbanks cave	0.10		
	Low strength	0.10				
28C:						
Wedowee-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Frost action	0.50	Slope	0.37	Slope	0.37
	Slope	0.37	Cutbanks cave	0.10		
	Low strength	0.10				
Louisburg-----------	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
	Slope	0.37	Depth to soft bedrock	0.64	Depth to bedrock	0.65
					Slope	0.37
			Slope	0.37		

Table 11b.—Building Site Development (Part 2)—Continued

Map symbol and soil name	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
28D:						
Wedowee	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	0.10				
Louisburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.91
			Depth to soft bedrock	0.64	Depth to bedrock	0.65
29A:						
Wehadkee	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	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
30A:						
Wingina	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.61	Flooding	0.60
	Frost action	0.50	Flooding	0.60		
	Low strength	0.22	Cutbanks cave	0.10		
31A:						
Yogaville	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	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		

Table 12a.—Sanitary Facilities (Part 1)

(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	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
1A:				
Altavista	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
2B:				
Appomattox	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.68
			Seepage	0.50
Cullen	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
2C:				
Appomattox	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
			Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	0.50
	Slope	0.37		
Cullen	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.37		
3A:				
Batteau	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
4B:				
Beckham	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
4C:				
Beckham	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.37		

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
4D:				
Beckham	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
5B:				
Cecil	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
6A:				
Chewacla	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
7B:				
Cullen	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
8B:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	0.99
	Depth to saturated zone	1.00	Depth to soft bedrock	0.93
	Depth to bedrock	0.98	Slope	0.68
8C:				
Iredell	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Depth to bedrock	0.98	Depth to soft bedrock	0.93
9E:				
Louisburg	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
10E:				
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
Rock outcrop	Not rated		Not rated	

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
11E:				
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
12B:				
Mattaponi	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
	Depth to saturated zone	0.84		
Cecil	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
12C:				
Mattaponi	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.84		
	Slope	0.37		
Cecil	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
13B:				
Mayodan	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
13C:				
Mayodan	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
13D:				
Mayodan	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
14B:				
Mecklenburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
			Seepage	0.50
15B:				
Mecklenburg	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.68
			Seepage	0.50

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Poindexter----------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
15C:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.37	Seepage	0.50
Poindexter----------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
15D:				
Mecklenburg---------	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	1.00	Seepage	0.50
Poindexter----------	Very limited		Very limited	
	Slope	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
16B:				
Nason---------------	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.94	Depth to soft bedrock	0.84
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
17B:				
Nason---------------	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.94	Depth to soft bedrock	0.84
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
Manteo--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Large stones content	0.01	Slope	0.68
17C:				
Nason---------------	Somewhat limited		Very limited	
	Depth to bedrock	0.94	Slope	1.00
	Slow water movement	0.50	Depth to soft bedrock	0.84
	Slope	0.37	Seepage	0.50

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.37	Seepage	1.00
17D:				
Nason	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Depth to bedrock	0.94	Depth to soft bedrock	0.84
	Slow water movement	0.50	Seepage	0.50
Manteo	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
18B:				
Pacolet	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
Louisburg	Very limited		Very limited	
	Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Seepage	1.00
	Filtering capacity	1.00	Slope	0.68
18C:				
Pacolet	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
Louisburg	Very limited		Very limited	
	Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Filtering capacity	1.00	Seepage	1.00
18D:				
Pacolet	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Louisburg	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

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
19E:				
Poindexter----------	Very limited		Very limited	
	Slope	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
20A:				
Riverview-----------	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
21A:				
State---------------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
	Depth to saturated zone	0.40	Flooding	0.40
	Flooding	0.40		
22B:				
Tatum---------------	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.99	Depth to soft bedrock	0.99
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
Manteo--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Large stones content	0.01	Slope	0.68
22C:				
Tatum---------------	Somewhat limited		Very limited	
	Depth to bedrock	0.99	Slope	1.00
	Slow water movement	0.50	Depth to soft bedrock	0.99
	Slope	0.37	Seepage	0.50
Manteo--------------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.37	Seepage	1.00
22D:				
Tatum---------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Depth to bedrock	0.99	Depth to soft bedrock	0.99
	Slow water movement	0.50	Seepage	0.50

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Manteo----------	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
23B:				
Tatum----------	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.99	Depth to soft bedrock	0.99
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
24B:				
Turbeville----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
24C:				
Turbeville----------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
25B:				
Turbeville----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
Tatum----------	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.99	Depth to soft bedrock	0.99
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
25C:				
Turbeville----------	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
Tatum----------	Somewhat limited		Very limited	
	Depth to bedrock	0.99	Slope	1.00
	Slow water movement	0.50	Depth to soft bedrock	0.99
	Slope	0.37	Seepage	0.50
25D:				
Turbeville----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Tatum----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Depth to bedrock	0.99	Depth to soft bedrock	0.99
	Slow water movement	0.50	Seepage	0.50

Table 12a.—Sanitary Facilities (Part 1)—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
26:				
Udorthents	Not rated		Not rated	
Urban land	Not rated		Not rated	
27B:				
Wedowee	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Slope	0.68
			Seepage	0.50
28C:				
Wedowee	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
	Slope	0.37		
Louisburg	Very limited		Very limited	
	Seepage, bottom layer	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Filtering capacity	1.00	Seepage	1.00
28D:				
Wedowee	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Louisburg	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
29A:				
Wehadkee	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50
30A:				
Wingina	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	0.71
	Slow water movement	0.50	Seepage	0.50
31A:				
Yogaville	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Seepage	0.50

Table 12b.—Sanitary Facilities (Part 2)

(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	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
1A:						
Altavista-----------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
2B:						
Appomattox----------	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			Depth to saturated zone	0.05
Cullen--------------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
					Hard to compact	0.50
2C:						
Appomattox----------	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	Slope	0.37	Slope	0.37
	Slope	0.37			Depth to saturated zone	0.05
Cullen--------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Hard to compact	0.50
					Slope	0.37
3A:						
Batteau-------------	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.96
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
4B:						
Beckham-------------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
4C:						
Beckham-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Slope	0.37
4D:						
Beckham-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
5B:						
Cecil---------------	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
6A:						
Chewacla	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		
7B:						
Cullen	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
					Hard to compact	0.50
8B:						
Iredell	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Depth to bedrock	1.00	Depth to bedrock	0.94	Depth to bedrock	0.94
8C:						
Iredell	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
	Depth to bedrock	1.00	Depth to bedrock	0.94	Depth to bedrock	0.94
	Slope	0.37	Slope	0.37	Slope	0.37
9E:						
Louisburg	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
10E:						
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Seepage	0.50
Rock outcrop	Not rated		Very limited		Not rated	
			Slope	1.00		
			Depth to bedrock	1.00		
11E:						
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Seepage	0.50
12B:						
Mattaponi	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
Cecil	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
12C:						
Mattaponi	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Slope	0.37

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
Cecil	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Slope	0.37
13B:						
Mayodan	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
13C:						
Mayodan	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.37	Too clayey	1.00
	Slope	0.37			Hard to compact	1.00
					Slope	0.37
13D:						
Mayodan	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
14B:						
Mecklenburg	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
15B:						
Mecklenburg	Very limited		Not limited		Very limited	
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
Poindexter	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
15C:						
Mecklenburg	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Slope	0.37	Too clayey	1.00
	Slope	0.37			Hard to compact	1.00
					Slope	0.37
Poindexter	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slope	0.37	Slope	0.37	Slope	0.37
15D:						
Mecklenburg	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
					Hard to compact	1.00
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
16B:						
Nason	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
	Too clayey	1.00			Depth to bedrock	0.84

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
17B:						
Nason	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
	Too clayey	1.00			Depth to bedrock	0.84
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Seepage, bottom layer	1.00			Seepage	0.50
					Too clayey	0.50
	Too clayey	0.50				
17C:						
Nason	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
	Too clayey	1.00	Slope	0.37	Depth to bedrock	0.84
	Slope	0.37			Slope	0.37
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Seepage, bottom layer	1.00	Slope	0.37	Seepage	0.50
					Too clayey	0.50
	Too clayey	0.50				
17D:						
Nason	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.84	Too clayey	1.00
	Too clayey	1.00			Depth to bedrock	0.84
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Seepage	0.50
18B:						
Pacolet	Not limited		Not limited		Not limited	
Louisburg	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
					Gravel content	0.10
18C:						
Pacolet	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.37	Slope	0.37	Slope	0.37
Louisburg	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	0.37	Slope	0.37
	Slope	0.37				
18D:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
Louisburg	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
19E:						
Poindexter	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
20A:						
Riverview	Very limited		Very limited		Not 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		
21A:						
State	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	Flooding	0.40		
	Flooding	0.40				
22B:						
Tatum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to bedrock	0.99
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Seepage, bottom layer	1.00			Seepage	0.50
	Too clayey	0.50			Too clayey	0.50
22C:						
Tatum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00	Slope	0.37	Hard to compact	1.00
	Slope	0.37			Depth to bedrock	0.99
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Seepage, bottom layer	1.00	Slope	0.37	Seepage	0.50
	Too clayey	0.50			Too clayey	0.50
22D:						
Tatum	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
	Seepage, bottom layer	1.00			Seepage	0.50

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
23B:						
Tatum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to bedrock	0.99
24B:						
Turbeville	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
24C:						
Turbeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Slope	0.37
25B:						
Turbeville	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
Tatum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
					Depth to bedrock	0.99
25C:						
Turbeville	Somewhat limited		Somewhat limited		Somewhat limited	
	Too clayey	0.50	Slope	0.37	Too clayey	0.50
	Slope	0.37			Slope	0.37
Tatum	Very limited		Somewhat limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00	Slope	0.37	Hard to compact	1.00
	Slope	0.37			Depth to bedrock	0.99
25D:						
Turbeville	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Tatum	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.99	Too clayey	1.00
	Too clayey	1.00			Hard to compact	1.00
26:						
Udorthents	Not rated		Somewhat limited		Not rated	
			Slope	0.01		
Urban land	Not rated		Not limited		Not rated	
27B:						
Wedowee	Not limited		Not limited		Not limited	
28C:						
Wedowee	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.37	Slope	0.37	Slope	0.37

Table 12b.—Sanitary Facilities (Part 2)—Continued

Map symbol and soil name	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
Louisburg-----------	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	0.37	Slope	0.37	Slope	0.37
28D:						
Wedowee-------------	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Louisburg-----------	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
29A:						
Wehadkee------------	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		
30A:						
Wingina-------------	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
31A:						
Yogaville-----------	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
	Too clayey	0.50				

Table 13a.—Construction Materials (Part 1)

(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	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
1A:				
Altavista	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
2B:				
Appomattox	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Cullen	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
2C:				
Appomattox	Poor		Poor	
	Thickest layer	0.00	Bottom layer	0.00
	Bottom layer	0.00	Thickest layer	0.00
Cullen	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3A:				
Batteau	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03
4B:				
Beckham	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
4C:				
Beckham	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
4D:				
Beckham	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
5B:				
Cecil	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
6A:				
Chewacla	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.03

Table 13a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
7B:				
Cullen---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8B:				
Iredell--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8C:				
Iredell--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
9E:				
Louisburg------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
10E:				
Manteo---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Rock outcrop---------	Not rated		Not rated	
11E:				
Manteo---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
12B:				
Mattaponi------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Cecil----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
12C:				
Mattaponi------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Cecil----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
13B:				
Mayodan--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
13C:				
Mayodan--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 13a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
13D:				
Mayodan	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
14B:				
Mecklenburg	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
15B:				
Mecklenburg	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Poindexter	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
15C:				
Mecklenburg	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Poindexter	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
15D:				
Mecklenburg	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Poindexter	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
16B:				
Nason	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
17B:				
Nason	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
17C:				
Nason	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 13a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
17D:				
Nason----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
18B:				
Pacolet--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Louisburg------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
18C:				
Pacolet--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Louisburg------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
18D:				
Pacolet--------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Louisburg------------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
19E:				
Poindexter-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
20A:				
Riverview------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
21A:				
State----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
22B:				
Tatum----------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo---------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 13a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
22C:				
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
22D:				
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Manteo	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
23B:				
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
24B:				
Turbeville	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
24C:				
Turbeville	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
25B:				
Turbeville	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
25C:				
Turbeville	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
25D:				
Turbeville	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Tatum	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 13a.—Construction Materials (Part 1)—Continued

Map symbol and soil name	Potential source of gravel		Potential source of sand	
	Rating class	Value	Rating class	Value
26:				
Udorthents----------	Not rated		Not rated	
Urban land----------	Not rated		Not rated	
27B:				
Wedowee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
28C:				
Wedowee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Louisburg-----------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
28D:				
Wedowee-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Louisburg-----------	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.03
	Thickest layer	0.00	Thickest layer	0.03
29A:				
Wehadkee------------	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
30A:				
Wingina-------------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
31A:				
Yogaville-----------	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 13b.—Construction Materials (Part 2)

(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	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
1A:						
Altavista-----------	Fair		Fair		Fair	
	Organic matter content low	0.12	Wetness depth	0.53	Wetness depth	0.53
	Too acid	0.20	Low strength	0.78	Too acid	0.76
2B:						
Appomattox----------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12			Rock fragments	0.68
	Too acid	0.50			Too acid	0.98
Cullen--------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.99
	Too acid	0.61				
2C:						
Appomattox----------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.63
	Too acid	0.50			Rock fragments	0.68
Cullen--------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.63
					Too acid	0.99
	Too acid	0.61				
3A:						
Batteau-------------	Fair		Poor		Fair	
	Water erosion	0.90	Low strength	0.00	Wetness depth	0.29
			Wetness depth	0.29		
4B:						
Beckham-------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.18	Shrink-swell	0.87		
	Too acid	0.50				
4C:						
Beckham-------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.18	Shrink-swell	0.87	Slope	0.63
	Too acid	0.50				

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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:						
Beckham	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Slope	0.00
	Organic matter content low	0.18	Slope	0.50	Too clayey	0.00
	Too acid	0.50	Shrink-swell	0.87		
5B:						
Cecil	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.99
	Too acid	0.61				
6A:						
Chewacla	Fair		Poor		Poor	
	Too acid	0.20	Wetness depth	0.00	Wetness depth	0.00
			Low strength	0.78	Hard to reclaim (rock fragments)	0.00
					Too acid	0.99
7B:						
Cullen	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.99
	Too acid	0.61				
8B:						
Iredell	Poor		Poor		Poor	
	Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
	Too acid	0.61	Depth to bedrock	0.07		
8C:						
Iredell	Poor		Poor		Poor	
	Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
	Organic matter content low	0.12	Low strength	0.00	Wetness depth	0.14
	Too acid	0.61	Depth to bedrock	0.07	Slope	0.63
9E:						
Louisburg	Poor		Poor		Poor	
	Droughty	0.00	Slope	0.00	Slope	0.00
	Organic matter content low	0.12	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.35			Depth to bedrock	0.35
10E:						
Manteo	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.00	Slope	0.00	Depth to bedrock	0.00
	Too acid	0.50	Cobble content	0.97	Slope	0.00
Rock outcrop	Not rated		Not rated		Not rated	

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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
11E:						
Manteo--------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.00	Rock fragments	0.00
	Too acid	0.50	Cobble content	0.97	Depth to bedrock	0.00
12B:						
Mattaponi-----------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.05
	Organic matter content low	0.12	Shrink-swell	0.87	Rock fragments	0.82
					Too acid	0.99
	Too acid	0.20				
Cecil---------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.99
	Too acid	0.61				
12C:						
Mattaponi-----------	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.05
	Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.63
					Rock fragments	0.82
	Too acid	0.20				
Cecil---------------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.10	Too clayey	0.00
	Organic matter content low	0.12			Slope	0.63
					Too acid	0.99
	Too acid	0.61				
13B:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.98	Too acid	0.98
	Too acid	0.54				
13C:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.98	Slope	0.63
	Too acid	0.54			Too acid	0.98
13D:						
Mayodan-------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
			Shrink-swell	0.98	Too acid	0.98
	Too acid	0.54				
14B:						
Mecklenburg---------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.99		
	Too acid	0.84				

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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:						
Mecklenburg	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.99		
	Too acid	0.84				
Poindexter	Fair		Poor		Fair	
	Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.54
			Low strength	0.00	Rock fragments	0.68
	Depth to bedrock	0.54			Too acid	0.99
	Too acid	0.61				
15C:						
Mecklenburg	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.99	Slope	0.63
	Too acid	0.84				
Poindexter	Fair		Poor		Fair	
	Organic matter content low	0.12	Depth to bedrock	0.00	Depth to bedrock	0.54
			Low strength	0.00	Slope	0.63
	Depth to bedrock	0.54			Rock fragments	0.68
	Too acid	0.61				
15D:						
Mecklenburg	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
			Shrink-swell	0.99		
	Too acid	0.84				
Poindexter	Fair		Poor		Poor	
	Organic matter content low	0.12	Depth to bedrock	0.00	Slope	0.00
			Low strength	0.00	Depth to bedrock	0.54
	Depth to bedrock	0.54	Slope	0.50	Rock fragments	0.68
	Too acid	0.61				
16B:						
Nason	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.16	Rock fragments	0.76
			Shrink-swell	0.90	Too acid	0.76
	Too acid	0.50				
17B:						
Nason	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.16	Rock fragments	0.76
			Shrink-swell	0.90	Too acid	0.76
	Too acid	0.50				
Manteo	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.00	Cobble content	0.97	Depth to bedrock	0.00
	Too acid	0.50			Too acid	0.95

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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
17C:						
Nason----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.16	Slope	0.63
			Shrink-swell	0.90	Rock fragments	0.76
	Too acid	0.50				
Manteo---------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.00	Cobble content	0.97	Depth to bedrock	0.00
	Too acid	0.50			Slope	0.63
17D:						
Nason----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.12	Depth to bedrock	0.16	Too clayey	0.00
			Slope	0.50	Rock fragments	0.76
	Too acid	0.50				
Manteo---------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.50	Rock fragments	0.00
	Too acid	0.50	Cobble content	0.97	Depth to bedrock	0.00
18B:						
Pacolet--------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.02			Rock fragments	0.76
					Too acid	0.98
	Too acid	0.50				
Louisburg------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Organic matter content low	0.12			Depth to bedrock	0.35
					Too acid	0.88
	Depth to bedrock	0.35				
18C:						
Pacolet--------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.02			Slope	0.63
					Rock fragments	0.76
	Too acid	0.50				
Louisburg------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Organic matter content low	0.12			Depth to bedrock	0.35
					Slope	0.63
	Depth to bedrock	0.35				
18D:						
Pacolet--------------	Poor		Fair		Poor	
	Too clayey	0.00	Slope	0.50	Slope	0.00
	Organic matter content low	0.02			Too clayey	0.00
					Rock fragments	0.76
	Too acid	0.50				

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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
Louisburg-----------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Organic matter content low	0.12	Slope	0.50	Rock fragments	0.00
	Depth to bedrock	0.35			Depth to bedrock	0.35
19E:						
Poindexter----------	Fair		Poor		Poor	
	Organic matter content low	0.12	Slope	0.00	Slope	0.00
	Depth to bedrock	0.54	Depth to bedrock	0.00	Depth to bedrock	0.54
	Too acid	0.61	Low strength	0.00	Rock fragments	0.68
20A:						
Riverview-----------	Fair		Good		Fair	
	Too acid	0.50			Too acid	0.95
	Organic matter content low	0.88				
21A:						
State---------------	Poor		Good		Poor	
	Too clayey	0.00			Too clayey	0.00
	Organic matter content low	0.12			Too acid	0.95
	Too acid	0.50				
22B:						
Tatum---------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Too acid	0.95
	Too acid	0.50	Shrink-swell	0.87	Rock fragments	0.98
Manteo--------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.00	Cobble content	0.97	Depth to bedrock	0.00
	Too acid	0.50			Too acid	0.95
22C:						
Tatum---------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Slope	0.63
	Too acid	0.50	Shrink-swell	0.87	Too acid	0.95
Manteo--------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Depth to bedrock	0.00	Cobble content	0.97	Depth to bedrock	0.00
	Too acid	0.50			Slope	0.63
22D:						
Tatum---------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Too clayey	0.00
	Too acid	0.50	Slope	0.50	Too acid	0.95
Manteo--------------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Depth to bedrock	0.00	Slope	0.50	Rock fragments	0.00
	Too acid	0.50	Cobble content	0.97	Depth to bedrock	0.00

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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
23B:						
Tatum----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Too acid	0.95
			Shrink-swell	0.87	Rock fragments	0.98
	Too acid	0.50				
24B:						
Turbeville-----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.88
	Too acid	0.50				
24C:						
Turbeville-----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.63
					Too acid	0.88
	Too acid	0.50				
25B:						
Turbeville-----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Too acid	0.88
	Too acid	0.50				
Tatum----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Too acid	0.95
			Shrink-swell	0.87	Rock fragments	0.98
	Too acid	0.50				
25C:						
Turbeville-----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Too clayey	0.00
	Organic matter content low	0.12	Shrink-swell	0.87	Slope	0.63
					Too acid	0.88
	Too acid	0.50				
Tatum----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Slope	0.63
			Shrink-swell	0.87	Too acid	0.95
	Too acid	0.50				
25D:						
Turbeville-----------	Poor		Fair		Poor	
	Too clayey	0.00	Low strength	0.22	Slope	0.00
	Organic matter content low	0.12	Slope	0.50	Too clayey	0.00
			Shrink-swell	0.87	Too acid	0.88
	Too acid	0.50				
Tatum----------------	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content low	0.12	Depth to bedrock	0.01	Too clayey	0.00
			Slope	0.50	Too acid	0.95
	Too acid	0.50				

Table 13b.—Construction Materials (Part 2)—Continued

Map symbol and soil name	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
26:						
Udorthents----------	Not rated		Not rated		Not rated	
Urban land----------	Not rated		Not rated		Not rated	
27B:						
Wedowee-------------	Fair		Good		Fair	
	Too clayey	0.08			Too clayey	0.05
	Organic matter content low	0.12			Too acid	0.24
	Too acid	0.50				
28C:						
Wedowee-------------	Fair		Good		Fair	
	Too clayey	0.08			Too clayey	0.05
	Organic matter content low	0.12			Too acid	0.24
	Too acid	0.50			Slope	0.63
Louisburg-----------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
	Organic matter content low	0.12			Depth to bedrock	0.35
	Depth to bedrock	0.35			Slope	0.63
28D:						
Wedowee-------------	Fair		Fair		Poor	
	Too clayey	0.08	Slope	0.50	Slope	0.00
	Organic matter content low	0.12			Too clayey	0.05
	Too acid	0.50			Too acid	0.24
Louisburg-----------	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
	Organic matter content low	0.12	Slope	0.50	Rock fragments	0.00
	Depth to bedrock	0.35			Depth to bedrock	0.35
29A:						
Wehadkee------------	Fair		Poor		Poor	
	Too acid	0.68	Wetness depth	0.00	Wetness depth	0.00
30A:						
Wingina-------------	Good		Fair		Good	
			Low strength	0.78		
31A:						
Yogaville-----------	Good		Poor		Poor	
			Wetness depth	0.00	Wetness depth	0.00
			Low strength	0.00	Rock fragments	0.95

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	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
1A:						
Altavista	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Piping	1.00	Slow refill	0.30
			Depth to saturated zone	0.99	Cutbanks cave	0.10
					Depth to saturated zone	0.01
2B:						
Appomattox	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.32	Depth to saturated zone	0.32
	Slope	0.32	Piping	0.07	Slow refill	0.30
					Cutbanks cave	0.10
Cullen	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.32				
2C:						
Appomattox	Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Depth to saturated zone	0.32	Depth to saturated zone	0.32
	Seepage	0.70	Piping	0.07	Slow refill	0.30
					Cutbanks cave	0.10
Cullen	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
3A:						
Batteau	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
			Piping	0.99	Cutbanks cave	0.10
			Seepage	0.03		
4B:						
Beckham	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.65	Depth to water	1.00
	Slope	0.32				
4C:						
Beckham	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.65	Depth to water	1.00
	Seepage	0.70				
4D:						
Beckham	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.65	Depth to water	1.00
	Seepage	0.70				
5B:						
Cecil	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.85	Depth to water	1.00
	Slope	0.32				

Table 14.—Water Management—Continued

Map symbol and soil name	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
6A:						
Chewacla	Somewhat limited Seepage	 0.70	Very limited Depth to saturated zone Seepage	 1.00 0.03	Very limited Cutbanks cave Slow refill	 1.00 0.30
7B:						
Cullen	Somewhat limited Seepage Slope	 0.70 0.32	Not limited		Very limited Depth to water	 1.00
8B:						
Iredell	Somewhat limited Slope Depth to bedrock	 0.32 0.01	Very limited Depth to saturated zone Thin layer	 1.00 0.34	Very limited Depth to water	 1.00
8C:						
Iredell	Very limited Slope Depth to bedrock	 1.00 0.01	Very limited Depth to saturated zone Thin layer	 1.00 0.34	Very limited Depth to water	 1.00
9E:						
Louisburg	Very limited Seepage Slope Depth to bedrock	 1.00 1.00 0.17	Somewhat limited Thin layer Seepage	 0.91 0.03	Very limited Depth to water	 1.00
10E:						
Manteo	Very limited Depth to bedrock Slope	 1.00 1.00	Very limited Thin layer Large stones content	 1.00 0.01	Very limited Depth to water	 1.00
Rock outcrop	Very limited Slope Depth to bedrock	 1.00 1.00	Not rated		Not rated	
11E:						
Manteo	Very limited Slope Depth to bedrock	 1.00 1.00	Very limited Thin layer Large stones content	 1.00 0.01	Very limited Depth to water	 1.00
12B:						
Mattaponi	Somewhat limited Slope Seepage	 0.32 0.05	Somewhat limited Piping	 0.38	Very limited Depth to water	 1.00
Cecil	Somewhat limited Seepage Slope	 0.70 0.32	Somewhat limited Piping	 0.85	Very limited Depth to water	 1.00
12C:						
Mattaponi	Very limited Slope Seepage	 1.00 0.05	Somewhat limited Piping	 0.38	Very limited Depth to water	 1.00

Table 14.—Water Management—Continued

Map symbol and soil name	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
Cecil	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.85	Depth to water	1.00
	Seepage	0.70				
13B:						
Mayodan	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.32				
13C:						
Mayodan	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
13D:						
Mayodan	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
14B:						
Mecklenburg	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.32				
15B:						
Mecklenburg	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.32				
Poindexter	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.93	Depth to water	1.00
	Slope	0.32	Thin layer	0.86		
	Depth to bedrock	0.11				
15C:						
Mecklenburg	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
Poindexter	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.93	Depth to water	1.00
	Seepage	0.70	Thin layer	0.86		
	Depth to bedrock	0.11				
15D:						
Mecklenburg	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
Poindexter	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.93	Depth to water	1.00
	Seepage	0.70	Thin layer	0.86		
	Depth to bedrock	0.11				
16B:						
Nason	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.74	Depth to water	1.00
	Slope	0.32	Thin layer	0.26		
	Depth to bedrock	0.01				

Table 14.—Water Management—Continued

Map symbol and soil name	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
17B:						
Nason	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.74	Depth to water	1.00
	Slope	0.32	Thin layer	0.26		
	Depth to bedrock	0.01				
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
	Slope	0.32	Large stones content	0.01		
17C:						
Nason	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.74	Depth to water	1.00
	Seepage	0.70	Thin layer	0.26		
	Depth to bedrock	0.01				
Manteo	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
	Slope	1.00	Large stones content	0.01		
17D:						
Nason	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.74	Depth to water	1.00
	Seepage	0.70	Thin layer	0.26		
	Depth to bedrock	0.01				
Manteo	Very limited		Very limited		Very limited	
	Slope	1.00	Thin layer	1.00	Depth to water	1.00
	Depth to bedrock	1.00	Large stones content	0.01		
18B:						
Pacolet	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.32				
Louisburg	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	Depth to water	1.00
	Slope	0.32	Seepage	0.03		
	Depth to bedrock	0.17				
18C:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	0.70				
Louisburg	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	Depth to water	1.00
	Slope	1.00	Seepage	0.03		
	Depth to bedrock	0.17				
18D:						
Pacolet	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	0.70				

Table 14.—Water Management—Continued

Map symbol and soil name	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
Louisburg-----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	Depth to water	1.00
	Slope	1.00	Seepage	0.03		
	Depth to bedrock	0.17				
19E:						
Poindexter----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Piping	0.93	Depth to water	1.00
	Seepage	0.70	Thin layer	0.86		
	Depth to bedrock	0.11				
20A:						
Riverview-----------	Very limited		Somewhat limited		Somewhat limited	
	Seepage	1.00	Seepage	0.02	Depth to saturated zone	0.81
					Cutbanks cave	0.10
21A:						
State---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Piping	0.91	Depth to water	1.00
					Slow refill	0.30
22B:						
Tatum---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.42	Depth to water	1.00
	Slope	0.32				
	Depth to bedrock	0.01				
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
	Slope	0.32	Large stones content	0.01		
22C:						
Tatum---------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Thin layer	0.42	Depth to water	1.00
	Seepage	0.70				
	Depth to bedrock	0.01				
Manteo--------------	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
	Slope	1.00	Large stones content	0.01		
22D:						
Tatum---------------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Thin layer	0.42	Depth to water	1.00
	Seepage	0.70				
	Depth to bedrock	0.01				
Manteo--------------	Very limited		Very limited		Very limited	
	Slope	1.00	Thin layer	1.00	Depth to water	1.00
	Depth to bedrock	1.00	Large stones content	0.01		
23B:						
Tatum---------------	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.42	Depth to water	1.00
	Slope	0.32				
	Depth to bedrock	0.01				

Table 14.—Water Management—Continued

Map symbol and soil name	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
24B:						
Turbeville	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.32				
24C:						
Turbeville	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	0.70				
25B:						
Turbeville	Somewhat limited		Very limited		Very limited	
	Seepage	0.70	Piping	1.00	Depth to water	1.00
	Slope	0.32				
Tatum	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.70	Thin layer	0.42	Depth to water	1.00
	Slope	0.32				
	Depth to bedrock	0.01				
25C:						
Turbeville	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	0.70				
Tatum	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Thin layer	0.42	Depth to water	1.00
	Seepage	0.70				
	Depth to bedrock	0.01				
25D:						
Turbeville	Very limited		Very limited		Very limited	
	Slope	1.00	Piping	1.00	Depth to water	1.00
	Seepage	0.70				
Tatum	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Thin layer	0.42	Depth to water	1.00
	Seepage	0.70				
	Depth to bedrock	0.01				
26:						
Udorthents	Very limited		Not rated		Not rated	
	Slope	1.00				
Urban land	Somewhat limited		Not rated		Not rated	
	Slope	0.32				
27B:						
Wedowee	Somewhat limited		Not limited		Very limited	
	Seepage	0.70			Depth to water	1.00
	Slope	0.32				
28C:						
Wedowee	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
Louisburg	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	Depth to water	1.00
	Slope	1.00	Seepage	0.03		
	Depth to bedrock	0.17				

Table 14.—Water Management—Continued

Map symbol and soil name	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
28D:						
Wedowee-------------	Very limited		Not limited		Very limited	
	Slope	1.00			Depth to water	1.00
	Seepage	0.70				
Louisburg-----------	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.91	Depth to water	1.00
	Slope	1.00	Seepage	0.03		
	Depth to bedrock	0.17				
29A:						
Wehadkee------------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
					Cutbanks cave	0.10
			Piping	0.98		
			Seepage	0.04		
30A:						
Wingina-------------	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.79	Depth to saturated zone	0.81
					Slow refill	0.30
					Cutbanks cave	0.10
31A:						
Yogaville-----------	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	1.00	Slow refill	0.30
					Cutbanks cave	0.10
			Piping	0.38		

Table 15.—Engineering Properties

(Absence of an entry indicates that the 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	
1A:												
Altavista-------	0-6	Loam	CL, CL-ML, ML	A-4	0	0	90-100	90-100	74-95	50-75	16-29	2-9
	6-40	Clay loam, sandy clay loam, loam	CL, CL-ML	A-6, A-4	0	0	90-100	90-100	74-95	55-80	23-38	6-14
	40-65	Sandy clay loam, stratified very gravelly sand to clay loam	CL, SC, GP-GM	A-6, A-4, A-1	0	0-10	40-100	40-100	26-100	10-60	9-38	NP-14
2B:												
Appomattox------	0-6	Gravelly sandy loam	SC-SM, GC-GM, GM	A-2, A-1	0	0-9	55-75	50-75	35-60	15-35	16-25	2-7
	6-36	Clay, gravelly sandy clay, clay loam	GC, MH	A-2, A-7	0	0-17	55-100	55-100	45-100	35-90	38-61	14-27
	36-65	Clay, sandy clay, gravelly sandy clay, very cobbly clay loam	CL, GC, ML	A-2, A-7	0	0-32	35-100	35-100	25-95	20-80	31-48	10-20
Cullen----------	0-9	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	75-100	65-95	50-80	28-38	7-13
	9-52	Clay, silty clay	ML, MH	A-7	0	0	90-100	75-100	65-100	60-100	47-67	17-27
	52-65	Clay, clay loam, silty clay, silty clay loam	CL, ML	A-4, A-7	0	0	90-100	75-100	60-100	50-85	30-47	8-17
2C:												
Appomattox------	0-6	Gravelly sandy loam	GC-GM, GM, SC-SM	A-2, A-1	0	0-9	55-75	50-75	35-60	15-35	16-25	2-7
	6-36	Clay, gravelly sandy clay, clay loam	GC, MH	A-2, A-7	0	0-17	55-100	55-100	45-100	35-90	38-61	14-27
	36-65	Clay, sandy clay, gravelly sandy clay, very cobbly clay loam	CL, GC, ML	A-2, A-7	0	0-32	35-100	35-100	25-95	20-80	31-48	10-20
Cullen----------	0-9	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	75-100	65-95	50-80	28-38	7-13
	9-52	Clay, silty clay	ML, MH	A-7	0	0	90-100	75-100	65-100	60-100	47-67	17-27
	52-65	Clay, clay loam, silty clay, silty clay loam	CL, ML	A-4, A-7	0	0	90-100	75-100	60-100	50-85	30-47	8-17

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
3A:												
Batteau---------	0-13	Loam	SM, CL	A-4, A-6	0	0	75-100	75-100	60-95	40-75	18-36	2-16
	13-60	Silt loam, sandy loam, loam, clay loam, fine sandy loam, silty clay loam, sandy clay loam	CL, SM	A-4, A-6, A-7	0	0	75-100	75-100	60-100	45-95	18-44	2-22
	60-72	Sandy loam, silt loam, loam, clay loam, fine sandy loam, silty clay loam, sandy clay loam	SM, CL, SC	A-7, A-4, A-1	0	0	75-100	75-100	50-95	25-60	18-44	2-22
4B:												
Beckham---------	0-7	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	75-100	65-95	50-80	28-39	7-13
	7-27	Clay, clay loam	ML, MH	A-7, A-4	0	0	100	75-100	60-100	50-95	34-55	10-21
	27-72	Clay, clay loam	MH, ML	A-4, A-7, A-6	0	0	100	75-100	65-100	50-85	34-57	10-17
4C:												
Beckham---------	0-7	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	75-100	65-95	50-80	28-39	7-13
	7-27	Clay, clay loam	ML, MH	A-7, A-4	0	0	100	75-100	60-100	50-95	34-55	10-21
	27-72	Clay, clay loam	MH, ML	A-4, A-7, A-6	0	0	100	75-100	65-100	50-85	34-57	10-17
4D:												
Beckham---------	0-7	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	75-100	65-95	50-80	28-39	7-13
	7-27	Clay, clay loam	ML, MH	A-7, A-4	0	0	100	75-100	60-100	50-95	34-55	10-21
	27-72	Clay, clay loam	MH, ML	A-4, A-7, A-6	0	0	100	75-100	65-100	50-85	34-57	10-17
5B:												
Cecil-----------	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0-1	90-100	75-100	55-85	25-45	10-22	NP-4
	9-50	Clay, clay loam	MH, ML	A-7, A-4	0	0-1	90-100	80-100	65-100	55-100	34-63	10-25
	50-65	Clay loam, sandy clay loam, loam	CL, ML, SM	A-4, A-6	0	0-1	90-100	80-100	65-100	45-85	18-39	2-13
6A:												
Chewacla--------	0-3	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	75-95	50-75	21-36	4-16
	3-13	Sandy loam, loam, sandy clay loam, silty clay loam, fine sandy loam, clay loam, silt loam	CL, SC	A-4, A-7, A-2	0	0	95-100	90-100	70-95	35-55	28-44	10-22
	13-45	Loam, sandy loam, sandy clay loam, silty clay loam, fine sandy loam, clay loam, silt loam	CL, SC	A-6, A-7, A-4	0	0	90-100	75-100	65-100	45-80	28-44	10-22
	45-65	Very gravelly sandy loam, stratified extremely gravelly sand to clay	CH, SC-SM	A-7, A-1	0	0	70-100	15-100	10-100	5-80	14-57	NP-32

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
7B:												
Cullen----------	0-9	Clay loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	75-100	65-95	50-80	28-38	7-13
	9-52	Clay, silty clay	ML, MH	A-7	0	0	90-100	75-100	65-100	60-100	47-67	17-27
	52-65	Clay, clay loam, silty clay, silty clay loam	CL, ML	A-4, A-7	0	0	90-100	75-100	60-100	50-85	30-47	8-17
8B:												
Iredell---------	0-5	Loam	CL, SC	A-4, A-6, A-7	0-2	0-2	90-100	75-100	55-95	40-70	26-47	9-24
	5-23	Clay, silty clay	CH	A-7	0	0	90-100	75-100	60-100	55-100	51-79	29-46
	23-43	Silt loam, loam, sandy loam, sandy clay loam	CL, CL-ML	A-4, A-6, A-7	0-1	0-1	90-100	85-100	70-100	55-95	22-46	6-25
	43-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
8C:												
Iredell---------	0-5	Loam	CL, SC	A-4, A-6, A-7	0-2	0-2	90-100	75-100	55-95	40-70	26-47	9-24
	5-23	Clay, silty clay	CH	A-7	0	0	90-100	75-100	60-100	55-100	51-79	29-46
	23-43	Silt loam, loam, sandy loam, sandy clay loam	CL, CL-ML	A-4, A-6, A-7	0-1	0-1	90-100	85-100	70-100	55-95	22-46	6-25
	43-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
9E:												
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---
10E:												
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
11E:												
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
12B:												
Mattaponi-------	0-9	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	90-100	75-100	50-85	25-45	12-23	NP-6
	9-38	Clay loam, sandy clay, clay, gravelly sandy clay	MH, CL, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-95	38-61	14-27
	38-45	Clay loam, sandy clay, clay, gravelly sandy clay	MH, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-90	38-61	14-27
	45-65	Clay loam, sandy clay, clay, gravelly sandy clay	MH, ML, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-85	38-52	14-22
Cecil-----------	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0-1	90-100	75-100	55-85	25-45	10-22	NP-4
	9-50	Clay, clay loam	MH, ML	A-7, A-4	0	0-1	90-100	80-100	65-100	55-100	34-63	10-25
	50-65	Clay loam, sandy clay loam, loam	CL, ML, SM	A-4, A-6	0	0-1	90-100	80-100	65-100	45-85	18-39	2-13
12C:												
Mattaponi-------	0-9	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	90-100	75-100	50-85	25-45	12-23	NP-6
	9-38	Clay loam, sandy clay, clay, gravelly sandy clay	MH, CL, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-95	38-61	14-27
	38-45	Clay loam, sandy clay, clay, gravelly sandy clay	MH, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-90	38-61	14-27
	45-65	Clay loam, sandy clay, clay, gravelly sandy clay	MH, ML, SC	A-7, A-2	0	0	80-100	50-100	45-100	35-85	38-52	14-22
Cecil-----------	0-9	Sandy loam	SC-SM, SM	A-2, A-4	0	0-1	90-100	75-100	55-85	25-45	10-22	NP-4
	9-50	Clay, clay loam	MH, ML	A-7, A-4	0	0-1	90-100	80-100	65-100	55-100	34-63	10-25
	50-65	Clay loam, sandy clay loam, loam	CL, ML, SM	A-4, A-6	0	0-1	90-100	80-100	65-100	45-85	18-39	2-13

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
13B:												
Mayodan---------	0-7	Gravelly sandy loam	SC, SC-SM, SM	A-1, A-2, A-4	0	0-6	85-90	55-80	40-65	20-40	14-28	NP-10
	7-45	Clay, clay loam	CH, CL	A-7	0	0-1	95-100	90-100	75-100	60-90	44-66	22-39
	45-61	Sandy clay loam, loam, clay loam	CL, SC	A-6, A-4, A-2, A-7	0	0-1	95-100	90-100	70-95	35-60	26-44	8-22
13C:												
Mayodan---------	0-7	Gravelly sandy loam	SC, SC-SM, SM	A-1, A-2, A-4	0	0-6	85-90	55-80	40-65	20-40	14-28	NP-10
	7-45	Clay, clay loam	CH, CL	A-7	0	0-1	95-100	90-100	75-100	60-90	44-66	22-39
	45-61	Sandy clay loam, loam, clay loam	CL, SC	A-6, A-4, A-2, A-7	0	0-1	95-100	90-100	70-95	35-60	26-44	8-22
13D:												
Mayodan---------	0-7	Gravelly sandy loam	SC, SC-SM, SM	A-1, A-2, A-4	0	0-6	85-90	55-80	40-65	20-40	14-28	NP-10
	7-45	Clay, clay loam	CH, CL	A-7	0	0-1	95-100	90-100	75-100	60-90	44-66	22-39
	45-61	Sandy clay loam, loam, clay loam	CL, SC	A-6, A-4, A-2, A-7	0	0-1	95-100	90-100	70-95	35-60	26-44	8-22
14B:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam	CL, SC-SM	A-4, A-6	0	0-1	90-100	75-100	60-95	40-75	20-39	4-17
	4-39	Clay	CH, CL	A-7	0	0-1	90-100	85-100	70-100	60-90	48-67	28-44
	39-50	Loam, sandy clay loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0-1	90-100	85-100	70-100	50-80	29-44	13-25
	50-65	Loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7, A-4	0	0-1	90-100	85-100	65-100	50-80	24-44	9-25
15B:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam	CL, SC-SM	A-4, A-6	0	0-1	90-100	75-100	60-95	40-75	20-39	4-17
	4-39	Clay	CH, CL	A-7	0	0-1	90-100	85-100	70-100	60-90	48-67	28-44
	39-50	Loam, sandy clay loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0-1	90-100	85-100	70-100	50-80	29-44	13-25
	50-65	Loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7, A-4	0	0-1	90-100	85-100	65-100	50-80	24-44	9-25

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Poindexter------	0-7	Gravelly silt loam	SC, SC-SM, CL	A-6, A-4, A-2	0	0	80-90	50-75	45-75	35-65	21-34	4-14
	7-21	Silt loam, clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-7	0	0	85-100	50-100	45-100	40-95	30-44	11-22
	21-30	Silt loam, sandy loam, loam, sandy clay loam, gravelly silty clay loam	CL, SC-SM	A-6, A-7, A-2	0	0	85-100	50-100	40-100	35-95	21-44	4-22
	30-51	Bedrock			---	---	---	---	---	---	---	---
	51-55	Bedrock			---	---	---	---	---	---	---	---
15C:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam	CL, SC-SM	A-4, A-6	0	0-1	90-100	75-100	60-95	40-75	20-39	4-17
	4-39	Clay	CH, CL	A-7	0	0-1	90-100	85-100	70-100	60-90	48-67	28-44
	39-50	Loam, sandy clay loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0-1	90-100	85-100	70-100	50-80	29-44	13-25
	50-65	Loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7, A-4	0	0-1	90-100	85-100	65-100	50-80	24-44	9-25
Poindexter------	0-7	Gravelly silt loam	SC, SC-SM, CL	A-6, A-4, A-2	0	0	80-90	50-75	45-75	35-65	21-34	4-14
	7-21	Silt loam, clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-7	0	0	85-100	50-100	45-100	40-95	30-44	11-22
	21-30	Silt loam, sandy loam, loam, sandy clay loam, gravelly silty clay loam	SC-SM, CL	A-6, A-7, A-2	0	0	85-100	50-100	40-100	35-95	21-44	4-22
	30-51	Bedrock			---	---	---	---	---	---	---	---
	51-55	Bedrock			---	---	---	---	---	---	---	---
15D:												
Mecklenburg-----	0-4	Loam, fine sandy loam, sandy loam	CL, SC-SM	A-4, A-6	0	0-1	90-100	75-100	60-95	40-75	20-39	4-17
	4-39	Clay	CH, CL	A-7	0	0-1	90-100	85-100	70-100	60-90	48-67	28-44
	39-50	Loam, sandy clay loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7	0	0-1	90-100	85-100	70-100	50-80	29-44	13-25
	50-65	Loam, clay loam, silty clay loam, silt loam	CL	A-6, A-7, A-4	0	0-1	90-100	85-100	65-100	50-80	24-44	9-25

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
Poindexter------	0-7	Gravelly silt loam	SC, SC-SM, CL	A-6, A-4, A-2	0	0	80-90	50-75	45-75	35-65	21-34	4-14
	7-21	Silt loam, clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-7	0	0	85-100	50-100	45-100	40-95	30-44	11-22
	21-30	Silt loam, sandy loam, loam, sandy clay loam, gravelly silty clay loam	SC-SM, CL	A-6, A-7, A-2	0	0	85-100	50-100	40-100	35-95	21-44	4-22
	30-51	Bedrock			---	---	---	---	---	---	---	---
	51-55	Bedrock			---	---	---	---	---	---	---	---
16B:												
Nason-----------	0-12	Gravelly loam, gravelly fine sandy loam, gravelly silt loam	SC-SM, SM	A-2, A-4	0	0-8	85-95	40-75	40-70	30-50	12-25	NP-7
	12-45	Clay, silty clay, silty clay loam, gravelly clay loam	CL, MH, SC	A-7, A-6	0	0-7	85-100	55-100	45-100	40-95	38-61	14-27
	45-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
17B:												
Nason-----------	0-12	Gravelly loam, gravelly fine sandy loam, gravelly silt loam	SC-SM, SM	A-2, A-4	0	0-8	85-95	40-75	40-70	30-50	12-25	NP-7
	12-45	Clay, silty clay, silty clay loam, gravelly clay loam	CL, MH, SC	A-7, A-6	0	0-7	85-100	55-100	45-100	40-95	38-61	14-27
	45-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
17C:												
Nason-----------	0-12	Gravelly loam, gravelly fine sandy loam, gravelly silt loam	SC-SM, SM	A-2, A-4	0	0-8	85-95	40-75	40-70	30-50	12-25	NP-7
	12-45	Clay, silty clay, silty clay loam, gravelly clay loam	CL, MH, SC	A-7, A-6	0	0-7	85-100	55-100	45-100	40-95	38-61	14-27
	45-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
17D:												
Nason-----------	0-12	Gravelly loam, gravelly fine sandy loam, gravelly silt loam	SC-SM, SM	A-2, A-4	0	0-8	85-95	40-75	40-70	30-50	12-25	NP-7
	12-45	Clay, silty clay, silty clay loam, gravelly clay loam	CL, MH, SC	A-7, A-6	0	0-7	85-100	55-100	45-100	40-95	38-61	14-27
	45-63	Bedrock			---	---	---	---	---	---	---	---
	63-67	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
18B:												
Pacolet---------	0-7	Sandy loam, sandy clay loam, clay loam	CL, SM	A-2, A-4	0	0-2	90-100	75-100	55-95	25-55	12-30	1-8
	7-29	Clay, clay loam, sandy clay	ML, MH	A-4, A-7	0	0-1	90-100	80-100	60-100	50-90	35-55	10-20
	29-64	Loam, sandy loam	CL-ML, SM	A-4	0	0-1	90-100	75-100	60-95	40-70	14-28	1-7

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---
18C:												
Pacolet---------	0-7	Sandy loam, sandy clay loam, clay loam	CL, SM	A-2, A-4	0	0-2	90-100	75-100	55-95	25-55	12-30	1-8
	7-29	Clay, clay loam, sandy clay	ML, MH	A-4, A-7	0	0-1	90-100	80-100	60-100	50-90	35-55	10-20
	29-64	Loam, sandy loam	CL-ML, SM	A-4	0	0-1	90-100	75-100	60-95	40-70	14-28	1-7
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---
18D:												
Pacolet---------	0-7	Sandy loam, sandy clay loam, clay loam	CL, SM	A-2, A-4	0	0-2	90-100	75-100	55-95	25-55	12-30	1-8
	7-29	Clay, clay loam, sandy clay	ML, MH	A-4, A-7	0	0-1	90-100	80-100	60-100	50-90	35-55	10-20
	29-64	Loam, sandy loam	CL-ML, SM	A-4	0	0-1	90-100	75-100	60-95	40-70	14-28	1-7
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
19E:												
Poindexter------	0-7	Gravelly silt loam	SC, SC-SM, CL	A-6, A-4, A-2	0	0	80-90	50-75	45-75	35-65	21-34	4-14
	7-21	Silt loam, clay loam, sandy clay loam, gravelly loam	CL, SC	A-6, A-7	0	0	85-100	50-100	45-100	40-95	30-44	11-22
	21-30	Silt loam, sandy loam, loam, sandy clay loam, gravelly silty clay loam	SC-SM, CL	A-6, A-7, A-2	0	0	85-100	50-100	40-100	35-95	21-44	4-22
	30-51	Bedrock			---	---	---	---	---	---	---	---
	51-55	Bedrock			---	---	---	---	---	---	---	---
20A:												
Riverview-------	0-6	Loam, fine sandy loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	80-95	55-75	21-36	4-16
	6-38	Sandy clay loam, clay loam, loam	SC, CL	A-6, A-7, A-4	0	0	100	100	80-95	40-60	28-44	10-22
	38-65	Sandy loam, loamy sand, fine sandy loam, silt loam, silty clay loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	100	100	70-95	30-60	16-39	NP-18
21A:												
State-----------	0-6	Loam, sandy loam, fine sandy loam, silt loam	CL-ML, CL, ML	A-4	0	0	95-100	95-100	75-95	55-75	16-30	2-10
	6-20	Sandy clay loam, clay loam, loam	SC, CL, SC-SM	A-6, A-4	0	0	95-100	95-100	75-95	40-60	23-38	6-14
	20-38	Sandy clay loam, clay loam, loam, clay	CL-ML, ML	A-4, A-7	0	0	95-100	95-100	65-95	50-80	23-48	6-20
	38-65	Clay loam, stratified sand to sandy loam, sandy loam, sand	CL, SM	A-2, A-6	0	0	90-100	75-100	50-95	35-80	12-38	NP-14
22B:												
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
22C:												
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
22D:												
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
Manteo----------	0-7	Very channery loam, very channery silt loam	CL, GM, GC	A-2, A-4, A-6	0-5	15-30	55-70	50-65	40-65	30-60	19-41	3-19
	7-14	Very channery clay loam, extremely channery clay loam, extremely channery silt loam	CL, GC, GC-GM	A-2, A-4, A-6	0-5	15-45	50-70	40-60	35-60	30-55	20-44	6-25
	14-18	Bedrock			---	---	---	---	---	---	---	---
23B:												
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
24B:												
Turbeville------	0-4	Loam	CL-ML, ML, SM	A-4	0	0-1	90-100	75-100	65-95	45-70	16-24	NP-4
	4-65	Clay, clay loam, sandy clay, gravelly clay	ML, SM	A-6, A-7, A-4, A-2	0	0-1	80-100	50-100	45-100	35-95	31-49	7-15
24C:												
Turbeville------	0-4	Loam	CL-ML, ML, SM	A-4	0	0-1	90-100	75-100	65-95	45-70	16-24	NP-4
	4-65	Clay, clay loam, sandy clay, gravelly clay	ML, SM	A-6, A-7, A-4, A-2	0	0-1	80-100	50-100	45-100	35-95	31-49	7-15

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
25B:												
Turbeville------	0-4	Loam	CL-ML, ML, SM	A-4	0	0-1	90-100	75-100	65-95	45-70	16-24	NP-4
	4-65	Clay, clay loam, sandy clay, gravelly clay	ML, SM	A-6, A-7, A-4, A-2	0	0-1	80-100	50-100	45-100	35-95	31-49	7-15
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
25C:												
Turbeville------	0-4	Loam	CL-ML, ML, SM	A-4	0	0-1	90-100	75-100	65-95	45-70	16-24	NP-4
	4-65	Clay, clay loam, sandy clay, gravelly clay	ML, SM	A-6, A-7, A-4, A-2	0	0-1	80-100	50-100	45-100	35-95	31-49	7-15
Tatum-----------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
25D:												
Turbeville------	0-4	Loam	CL-ML, ML, SM	A-4	0	0-1	90-100	75-100	65-95	45-70	16-24	NP-4
	4-65	Clay, clay loam, sandy clay, gravelly clay	ML, SM	A-6, A-7, A-4, A-2	0	0-1	80-100	50-100	45-100	35-95	31-49	7-15
Tatum-----------	0-10	Silt loam	ML, CL, CL-ML	A-4	0	0-2	90-100	75-100	65-100	50-85	18-31	3-10
	10-41	Clay, silty clay, silty clay loam, gravelly clay loam	MH, SC	A-7, A-2	0	0-1	85-100	50-100	40-100	35-90	38-61	14-27
	41-45	Bedrock			---	---	---	---	---	---	---	---
26:												
Udorthents------	---	---	---	---	---	---	---	---	---	---	---	---
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
27B:												
Wedowee---------	0-7	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	90-100	75-100	50-85	25-45	12-25	NP-7
	7-25	Clay loam, clay, gravelly clay loam	CL, MH, SC	A-2, A-7	0	0	80-100	50-100	45-100	30-80	38-56	14-24
	25-65	Sandy clay loam, clay loam, sandy loam, gravelly sandy loam	CL, SC, SM	A-1, A-4, A-6	0	0	80-100	50-100	35-95	15-55	16-34	2-12

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
28C:												
Wedowee---------	0-7	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	90-100	75-100	50-85	25-45	12-25	NP-7
	7-25	Clay loam, clay, gravelly clay loam	CL, MH, SC	A-2, A-7	0	0	80-100	50-100	45-100	30-80	38-56	14-24
	25-65	Sandy clay loam, clay loam, sandy loam, gravelly sandy loam	CL, SC, SM	A-1, A-4, A-6	0	0	80-100	50-100	35-95	15-55	16-34	2-12
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---
28D:												
Wedowee---------	0-7	Sandy loam	SC-SM, SM	A-2, A-4, A-1	0	0	90-100	75-100	50-85	25-45	12-25	NP-7
	7-25	Clay loam, clay, gravelly clay loam	CL, MH, SC	A-2, A-7	0	0	80-100	50-100	45-100	30-80	38-56	14-24
	25-65	Sandy clay loam, clay loam, sandy loam, gravelly sandy loam	CL, SC, SM	A-1, A-4, A-6	0	0	80-100	50-100	35-95	15-55	16-34	2-12
Louisburg-------	0-13	Gravelly coarse sandy loam	SC-SM, SM	A-1, A-2	0	0-8	85-90	55-75	30-50	15-30	12-20	NP-4
	13-28	Gravelly sandy loam, gravelly sandy clay loam, gravelly coarse sandy loam	SC, SC-SM, SM	A-2, A-1	0	0-8	85-90	55-75	35-65	15-35	13-27	NP-8
	28-72	Bedrock			---	---	---	---	---	---	---	---
29A:												
Wehadkee--------	0-6	Loam	ML, CL	A-6, A-4	0	0	100	95-100	75-95	50-70	16-30	NP-11
	6-45	Loam, silt loam, sandy clay loam, silty clay loam, clay loam	CL	A-4, A-6, A-7	0	0	100	95-100	85-100	60-80	28-44	10-22
	45-74	Sandy loam, loam, silty clay loam, sand	CL, SM, SC	A-2, A-4, A-6, A-7	0	0	100	95-100	60-95	20-60	14-44	NP-22
30A:												
Wingina---------	0-14	Loam	SC-SM, CL	A-4, A-6	0	0	90-100	75-100	60-95	40-75	21-36	4-16
	14-72	Loam, sandy loam, clay loam, fine sandy loam, sandy clay loam	SC, CL	A-7, A-6	0	0	90-100	75-100	60-100	45-80	28-44	10-22

Table 15.—Engineering Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
31A:												
Yogaville-------	0-14	Loam	SC-SM, CL	A-6, A-4	0	0	90-100	75-100	60-95	40-75	21-36	4-16
	14-72	Clay loam, silt loam, loam, sandy loam, fine sandy loam	SC, CL	A-7, A-4, A-6	0	0	90-100	75-100	60-95	45-80	28-44	10-22

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	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	g/cc	um/sec	In/in	Pct	Pct					
1A:												
Altavista------------	0-6	10-24	1.30-1.50	14.00-42.00	0.17-0.21	0.0-2.9	0.5-3.0	.28	.28	5	5	56
	6-40	18-35	1.30-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.28	.28			
	40-65	2-35	1.40-1.60	4.00-141.00	0.02-0.13	0.0-2.9	0.0-0.2	.20	.20			
2B:												
Appomattox-----------	0-6	10-20	1.20-1.50	4.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.10	.20	5	3	56
	6-36	35-60	1.20-1.50	1.40-4.00	0.07-0.14	3.0-5.9	0.0-0.5	.24	.28			
	36-65	27-45	1.20-1.50	4.00-42.00	0.04-0.14	0.0-2.9	0.0-0.2	.24	.28			
Cullen---------------	0-9	27-40	1.20-1.50	4.00-14.00	0.10-0.13	3.0-5.9	0.5-2.0	.20	.20	5	6	48
	9-52	50-75	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.5	.15	.15			
	52-65	30-50	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.2	.20	.20			
2C:												
Appomattox-----------	0-6	10-20	1.20-1.50	4.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.10	.20	5	3	56
	6-36	35-60	1.20-1.50	1.40-4.00	0.07-0.14	3.0-5.9	0.0-0.5	.24	.28			
	36-65	27-45	1.20-1.50	4.00-42.00	0.04-0.14	0.0-2.9	0.0-0.2	.24	.28			
Cullen---------------	0-9	27-40	1.20-1.50	4.00-14.00	0.10-0.13	3.0-5.9	0.5-2.0	.20	.20	5	6	48
	9-52	50-75	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.5	.15	.15			
	52-65	30-50	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.2	.20	.20			
3A:												
Batteau--------------	0-13	7-27	1.20-1.50	4.00-14.00	0.14-0.21	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	13-60	7-35	1.20-1.50	4.00-14.00	0.10-0.22	0.0-2.9	0.5-2.0	.43	.43			
	60-72	7-35	1.20-1.50	4.00-14.00	0.10-0.22	0.0-2.9	0.5-2.0	.24	.24			
4B:												
Beckham--------------	0-7	27-40	1.35-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-3.0	.17	.17	5	6	48
	7-27	35-60	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.5-1.0	.20	.20			
	27-72	35-50	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.1-0.5	.20	.20			
4C:												
Beckham--------------	0-7	27-40	1.35-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-3.0	.17	.17	5	6	48
	7-27	35-60	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.5-1.0	.20	.20			
	27-72	35-50	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.1-0.5	.20	.20			
4D:												
Beckham--------------	0-7	27-40	1.35-1.50	4.00-14.00	0.10-0.15	0.0-2.9	1.0-3.0	.17	.17	5	6	48
	7-27	35-60	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.5-1.0	.20	.20			
	27-72	35-50	1.35-1.50	4.00-14.00	0.09-0.13	3.0-5.9	0.1-0.5	.20	.20			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	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	g/cc	um/sec	In/in	Pct	Pct					
5B:												
Cecil----------------	0-9	5-20	1.30-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-1.0	.24	.24	4	3	86
	9-50	35-70	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.28	.28			
	50-65	15-40	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.28	.28			
6A:												
Chewacla-------------	0-3	10-27	1.30-1.60	4.00-14.00	0.17-0.21	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	3-13	18-35	1.30-1.60	4.00-14.00	0.12-0.22	0.0-2.9	0.5-2.0	.28	.28			
	13-45	18-35	1.30-1.60	4.00-14.00	0.10-0.22	0.0-2.9	0.5-2.0	.28	.28			
	45-65	2-50	1.40-1.60	4.00-141.00	0.02-0.22	0.0-2.9	0.0-1.0	.10	.24			
7B:												
Cullen---------------	0-9	27-40	1.20-1.50	4.00-14.00	0.10-0.13	3.0-5.9	0.5-2.0	.20	.20	5	6	48
	9-52	50-75	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.5	.15	.15			
	52-65	30-50	1.30-1.60	4.00-14.00	0.09-0.15	3.0-5.9	0.0-0.2	.20	.20			
8B:												
Iredell--------------	0-5	10-27	1.20-1.40	4.00-14.00	0.14-0.19	0.0-2.9	0.5-2.0	.24	.32	4	6	48
	5-23	40-85	1.20-1.45	0.01-0.42	0.09-0.14	9.0-25.0	0.0-0.5	.20	.20			
	23-43	10-35	1.30-1.60	0.42-1.40	0.11-0.22	3.0-5.9	0.0-0.5	.28	.28			
	43-63	---	---	0.00-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
8C:												
Iredell--------------	0-5	10-27	1.20-1.40	4.00-14.00	0.14-0.19	0.0-2.9	0.5-2.0	.24	.32	4	6	48
	5-23	40-85	1.20-1.45	0.01-0.42	0.09-0.14	9.0-25.0	0.0-0.5	.20	.20			
	23-43	10-35	1.30-1.60	0.42-1.40	0.11-0.22	3.0-5.9	0.0-0.5	.28	.28			
	43-63	---	---	0.00-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
9E:												
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			
10E:												
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			
Rock outcrop---------	---	---	---	---	---	---	---	---	---	--	8	0
11E:												
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
12B:												
Mattaponi------------	0-9	5-18	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.5-2.0	.15	.20	5	3	86
	9-38	35-60	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.28			
	38-45	35-60	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.20			
	45-65	35-50	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.24			
Cecil----------------	0-9	5-20	1.30-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-1.0	.24	.24	4	3	86
	9-50	35-70	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.28	.28			
	50-65	15-40	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.28	.28			
12C:												
Mattaponi------------	0-9	5-18	1.30-1.55	4.00-42.00	0.10-0.13	0.0-2.9	0.5-2.0	.15	.20	5	3	86
	9-38	35-60	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.28			
	38-45	35-60	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.20			
	45-65	35-50	1.40-1.65	1.40-4.00	0.06-0.13	3.0-5.9	0.0-0.5	.24	.24			
Cecil----------------	0-9	5-20	1.30-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-1.0	.24	.24	4	3	86
	9-50	35-70	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.28	.28			
	50-65	15-40	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.28	.28			
13B:												
Mayodan--------------	0-7	2-18	1.45-1.70	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.15	.20	4	3	56
	7-45	35-60	1.25-1.55	4.00-14.00	0.11-0.13	3.0-5.9	0.0-0.5	.20	.20			
	45-61	15-35	1.40-1.60	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.2	.24	.24			
13C:												
Mayodan--------------	0-7	2-18	1.45-1.70	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.15	.20	4	3	56
	7-45	35-60	1.25-1.55	4.00-14.00	0.11-0.13	3.0-5.9	0.0-0.5	.20	.20			
	45-61	15-35	1.40-1.60	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.2	.24	.24			
13D:												
Mayodan--------------	0-7	2-18	1.45-1.70	14.00-42.00	0.07-0.10	0.0-2.9	0.5-2.0	.15	.20	4	3	56
	7-45	35-60	1.25-1.55	4.00-14.00	0.11-0.13	3.0-5.9	0.0-0.5	.20	.20			
	45-61	15-35	1.40-1.60	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.2	.24	.24			
14B:												
Mecklenburg----------	0-4	8-25	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.5-2.0	.28	.32	4	5	56
	4-39	40-60	1.40-1.60	0.42-1.40	0.10-0.12	3.0-5.9	0.0-0.5	.20	.20			
	39-50	20-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
	50-65	15-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.28	.37			
15B:												
Mecklenburg----------	0-4	8-25	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.5-2.0	.28	.32	4	5	56
	4-39	40-60	1.40-1.60	0.42-1.40	0.10-0.12	3.0-5.9	0.0-0.5	.20	.20			
	39-50	20-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
	50-65	15-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.28	.37			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Poindexter-----------	0-7	10-25	1.25-1.45	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.20	.43	3	5	56
	7-21	20-35	1.35-1.45	4.00-14.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	21-30	10-35	1.35-1.45	4.00-42.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	30-51	---	---	0.01-0.42	---	---	---	---	---			
	51-55	---	---	0.00-0.07	---	---	---	---	---			
15C:												
Mecklenburg----------	0-4	8-25	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.5-2.0	.28	.32	4	5	56
	4-39	40-60	1.40-1.60	0.42-1.40	0.10-0.12	3.0-5.9	0.0-0.5	.20	.20			
	39-50	20-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
	50-65	15-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.28	.37			
Poindexter-----------	0-7	10-25	1.25-1.45	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.20	.43	3	5	56
	7-21	20-35	1.35-1.45	4.00-14.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	21-30	10-35	1.35-1.45	4.00-42.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	30-51	---	---	0.01-0.42	---	---	---	---	---			
	51-55	---	---	0.00-0.07	---	---	---	---	---			
15D:												
Mecklenburg----------	0-4	8-25	1.30-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.5-2.0	.28	.32	4	5	56
	4-39	40-60	1.40-1.60	0.42-1.40	0.10-0.12	3.0-5.9	0.0-0.5	.20	.20			
	39-50	20-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.37	.37			
	50-65	15-35	1.40-1.60	4.00-14.00	0.11-0.22	0.0-2.9	0.0-0.2	.28	.37			
Poindexter-----------	0-7	10-25	1.25-1.45	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.20	.43	3	5	56
	7-21	20-35	1.35-1.45	4.00-14.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	21-30	10-35	1.35-1.45	4.00-42.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	30-51	---	---	0.01-0.42	---	---	---	---	---			
	51-55	---	---	0.00-0.07	---	---	---	---	---			
16B:												
Nason----------------	0-12	6-20	1.35-1.45	4.00-14.00	0.06-0.17	0.0-2.9	2.0-5.0	.15	.24	4	6	48
	12-45	35-60	1.40-1.50	4.00-14.00	0.07-0.15	3.0-5.9	0.0-0.5	.24	.32			
	45-63	---	---	0.01-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
17B:												
Nason----------------	0-12	6-20	1.35-1.45	4.00-14.00	0.06-0.17	0.0-2.9	2.0-5.0	.15	.24	4	6	48
	12-45	35-60	1.40-1.50	4.00-14.00	0.07-0.15	3.0-5.9	0.0-0.5	.24	.32			
	45-63	---	---	0.01-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	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	g/cc	um/sec	In/in	Pct	Pct					
17C:												
Nason----------------	0-12	6-20	1.35-1.45	4.00-14.00	0.06-0.17	0.0-2.9	2.0-5.0	.15	.24	4	6	48
	12-45	35-60	1.40-1.50	4.00-14.00	0.07-0.15	3.0-5.9	0.0-0.5	.24	.32			
	45-63	---	---	0.01-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			
17D:												
Nason----------------	0-12	6-20	1.35-1.45	4.00-14.00	0.06-0.17	0.0-2.9	2.0-5.0	.15	.24	4	6	48
	12-45	35-60	1.40-1.50	4.00-14.00	0.07-0.15	3.0-5.9	0.0-0.5	.24	.32			
	45-63	---	---	0.01-0.42	---	---	---	---	---			
	63-67	---	---	0.00-0.07	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			
18B:												
Pacolet--------------	0-7	8-30	1.00-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-2.0	.15	.20	4	3	86
	7-29	35-60	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.24	.28			
	29-64	10-27	1.20-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.24	.28			
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			
18C:												
Pacolet--------------	0-7	8-30	1.00-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-2.0	.15	.20	4	3	86
	7-29	35-60	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.24	.28			
	29-64	10-27	1.20-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.24	.28			
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			
18D:												
Pacolet--------------	0-7	8-30	1.00-1.50	14.00-42.00	0.10-0.13	0.0-2.9	0.5-2.0	.15	.20	4	3	86
	7-29	35-60	1.30-1.50	4.00-14.00	0.10-0.13	0.0-2.9	0.0-0.5	.24	.28			
	29-64	10-27	1.20-1.50	4.00-14.00	0.10-0.19	0.0-2.9	0.0-0.2	.24	.28			
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
19E:												
Poindexter-----------	0-7	10-25	1.25-1.45	14.00-42.00	0.11-0.17	0.0-2.9	0.5-2.0	.20	.43	3	5	56
	7-21	20-35	1.35-1.45	4.00-14.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	21-30	10-35	1.35-1.45	4.00-42.00	0.07-0.22	0.0-2.9	0.0-0.5	.37	.49			
	30-51	---	---	0.01-0.42	---	---	---	---	---			
	51-55	---	---	0.00-0.07	---	---	---	---	---			
20A:												
Riverview------------	0-6	10-27	1.30-1.60	4.00-14.00	0.16-0.24	0.0-2.9	0.5-2.0	.28	.28	5	5	56
	6-38	18-35	1.20-1.40	4.00-14.00	0.15-0.22	0.0-2.9	0.5-1.0	.20	.20			
	38-65	4-30	1.20-1.50	4.00-42.00	0.07-0.22	0.0-2.9	0.5-1.0	.28	.28			
21A:												
State----------------	0-6	10-25	1.20-1.35	4.00-14.00	0.12-0.22	0.0-2.9	0.5-2.0	.28	.28	5	5	56
	6-20	18-35	1.35-1.50	4.00-14.00	0.12-0.19	0.0-2.9	0.0-0.5	.28	.28			
	20-38	18-45	1.35-1.50	4.00-14.00	0.11-0.19	0.0-2.9	0.0-0.5	.28	.28			
	38-65	5-34	1.40-1.60	4.00-141.00	0.04-0.13	0.0-2.9	0.0-0.5	.28	.28			
22B:												
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			
22C:												
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			
22D:												
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
Manteo---------------	0-7	7-27	1.25-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.5-2.0	.15	.37	1	5	38
	7-14	10-35	1.35-1.65	14.00-42.00	0.05-0.13	0.0-2.9	0.0-0.5	.15	.43			
	14-18	---	---	0.01-0.42	---	---	---	---	---			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
23B:												
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
24B:												
Turbeville-----------	0-4	15-25	1.30-1.50	14.00-42.00	0.14-0.19	0.0-2.9	0.5-2.0	.28	.28	5	6	48
	4-65	35-60	1.35-1.50	4.00-14.00	0.06-0.13	3.0-5.9	0.0-0.5	.20	.20			
24C:												
Turbeville-----------	0-4	15-25	1.30-1.50	14.00-42.00	0.14-0.19	0.0-2.9	0.5-2.0	.28	.28	5	6	48
	4-65	35-60	1.35-1.50	4.00-14.00	0.06-0.13	3.0-5.9	0.0-0.5	.20	.20			
25B:												
Turbeville-----------	0-4	15-25	1.30-1.50	14.00-42.00	0.14-0.19	0.0-2.9	0.5-2.0	.28	.28	5	6	48
	4-65	35-60	1.35-1.50	4.00-14.00	0.06-0.13	3.0-5.9	0.0-0.5	.20	.20			
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
25C:												
Turbeville-----------	0-4	15-25	1.30-1.50	14.00-42.00	0.14-0.19	0.0-2.9	0.5-2.0	.28	.28	5	6	48
	4-65	35-60	1.35-1.50	4.00-14.00	0.06-0.13	3.0-5.9	0.0-0.5	.20	.20			
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
25D:												
Turbeville-----------	0-4	15-25	1.30-1.50	14.00-42.00	0.14-0.19	0.0-2.9	0.5-2.0	.28	.28	5	6	48
	4-65	35-60	1.35-1.50	4.00-14.00	0.06-0.13	3.0-5.9	0.0-0.5	.20	.20			
Tatum----------------	0-10	12-27	1.10-1.40	4.00-14.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.43	4	6	48
	10-41	35-60	1.40-1.60	4.00-14.00	0.06-0.15	3.0-5.9	0.0-0.5	.28	.28			
	41-45	---	---	0.01-0.42	---	---	---	---	---			
26:												
Udorthents-----------	---	---	---	---	---	---	---	---	---	--	---	---
Urban land-----------	---	---	---	---	---	---	---	---	---	--	---	---
27B:												
Wedowee--------------	0-7	5-20	1.25-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	7-25	35-55	1.30-1.50	4.00-14.00	0.06-0.13	0.0-2.9	0.0-0.5	.28	.28			
	25-65	10-30	1.20-1.50	4.00-14.00	0.07-0.13	0.0-2.9	0.0-0.5	.28	.28			

Table 16.—Physical Soil Properties—Continued

Map symbol and soil name	Depth	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	g/cc	um/sec	In/in	Pct	Pct					
28C:												
Wedowee--------------	0-7	5-20	1.25-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	7-25	35-55	1.30-1.50	4.00-14.00	0.06-0.13	0.0-2.9	0.0-0.5	.28	.28			
	25-65	10-30	1.20-1.50	4.00-14.00	0.07-0.13	0.0-2.9	0.0-0.5	.28	.28			
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			
28D:												
Wedowee--------------	0-7	5-20	1.25-1.60	14.00-42.00	0.10-0.13	0.0-2.9	0.5-3.0	.24	.24	4	3	86
	7-25	35-55	1.30-1.50	4.00-14.00	0.06-0.13	0.0-2.9	0.0-0.5	.28	.28			
	25-65	10-30	1.20-1.50	4.00-14.00	0.07-0.13	0.0-2.9	0.0-0.5	.28	.28			
Louisburg------------	0-13	5-15	1.35-1.55	42.00-141.00	0.06-0.08	0.0-2.9	0.5-2.0	.15	.24	3	3	56
	13-28	7-22	1.40-1.60	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.24			
	28-72	---	---	0.00-0.42	---	---	---	---	---			
29A:												
Wehadkee-------------	0-6	5-20	1.35-1.60	4.00-42.00	0.18-0.21	0.0-2.9	2.0-5.0	.24	.24	5	5	56
	6-45	18-35	1.30-1.50	4.00-14.00	0.12-0.22	0.0-2.9	0.0-2.0	.32	.32			
	45-74	2-35	1.30-1.50	4.00-141.00	0.05-0.13	0.0-2.9	0.0-2.0	.32	.32			
30A:												
Wingina--------------	0-14	10-27	1.20-1.40	4.00-14.00	0.14-0.21	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	14-72	18-35	1.20-1.40	4.00-14.00	0.10-0.19	0.0-2.9	0.5-2.0	.28	.28			
31A:												
Yogaville------------	0-14	10-27	1.20-1.40	4.00-14.00	0.14-0.22	0.0-2.9	1.0-4.0	.28	.28	5	5	56
	14-72	18-35	1.20-1.40	4.00-14.00	0.10-0.22	0.0-2.9	0.5-2.0	.28	.28			

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
1A:				
Altavista	0-6	4.6-15	3.5-11	3.5-6.0
	6-40	6.3-13	4.7-10	3.5-6.0
	40-65	0.7-13	0.5-9.5	3.5-6.0
2B:				
Appomattox	0-6	4.8-9.5	3.6-7.1	4.5-6.0
	6-36	8.8-16	6.6-12	4.5-6.0
	36-65	6.8-12	5.1-8.8	4.5-6.0
Cullen	0-9	5.9-12	4.4-8.7	5.1-6.0
	9-52	8.8-14	6.6-11	5.1-6.0
	52-65	5.5-9.3	3.9-6.9	5.1-6.0
2C:				
Appomattox	0-6	4.8-9.5	3.6-7.1	4.5-6.0
	6-36	8.8-16	6.6-12	4.5-6.0
	36-65	6.8-12	5.1-8.8	4.5-6.0
Cullen	0-9	5.9-12	4.4-8.7	5.1-6.0
	9-52	8.8-14	6.6-11	5.1-6.0
	52-65	5.5-9.3	3.9-6.9	5.1-6.0
3A:				
Batteau	0-13	4.7-18	3.5-14	5.6-7.3
	13-60	3.6-17	2.7-13	5.6-7.3
	60-72	3.6-17	2.7-13	5.6-7.3
4B:				
Beckham	0-7	7.0-14	5.3-10	4.5-6.5
	7-27	7.3-13	5.5-9.6	4.5-6.5
	27-72	6.4-9.9	4.8-7.4	4.5-6.5
4C:				
Beckham	0-7	7.0-14	5.3-10	4.5-6.5
	7-27	7.3-13	5.5-9.6	4.5-6.5
	27-72	6.4-9.9	4.8-7.4	4.5-6.5
4D:				
Beckham	0-7	7.0-14	5.3-10	4.5-6.5
	7-27	7.3-13	5.5-9.6	4.5-6.5
	27-72	6.4-9.9	4.8-7.4	4.5-6.5
5B:				
Cecil	0-9	2.0-5.7	1.5-4.3	4.5-6.0
	9-50	6.2-13	4.6-10	4.5-5.5
	50-65	4.6-13	2.0-5.6	4.5-5.5
6A:				
Chewacla	0-3	5.8-18	4.3-14	4.5-6.5
	3-13	7.4-17	5.6-13	4.5-6.5
	13-45	7.4-17	5.6-13	4.5-6.5
	45-65	0.7-20	0.5-15	4.5-7.8
7B:				
Cullen	0-9	5.9-12	4.4-8.7	5.1-6.0
	9-52	8.8-14	6.6-11	5.1-6.0
	52-65	5.5-9.3	3.9-6.9	5.1-6.0

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
8B:				
Iredell	0-5	8.6-22	6.5-16	5.1-7.3
	5-23	20-31	15-23	5.6-7.8
	23-43	5.0-19	3.8-14	6.6-8.4
	43-63	---	---	---
	63-67	---	---	---
8C:				
Iredell	0-5	8.6-22	6.5-16	5.1-7.3
	5-23	20-31	15-23	5.6-7.8
	23-43	5.0-19	3.8-14	6.6-8.4
	43-63	---	---	---
	63-67	---	---	---
9E:				
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
10E:				
Manteo	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
Rock outcrop	---	---	---	---
11E:				
Manteo	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
12B:				
Mattaponi	0-9	2.4-9.0	1.8-6.8	4.5-5.5
	9-38	8.8-16	6.6-12	4.5-5.5
	38-45	8.8-16	6.6-12	4.5-5.5
	45-65	8.8-14	6.6-10	4.5-5.5
Cecil	0-9	2.0-5.7	1.5-4.3	4.5-6.0
	9-50	6.2-13	4.6-10	4.5-5.5
	50-65	4.6-13	2.0-5.6	4.5-5.5
12C:				
Mattaponi	0-9	2.4-9.0	1.8-6.8	4.5-5.5
	9-38	8.8-16	6.6-12	4.5-5.5
	38-45	8.8-16	6.6-12	4.5-5.5
	45-65	8.8-14	6.6-10	4.5-5.5
Cecil	0-9	2.0-5.7	1.5-4.3	4.5-6.0
	9-50	6.2-13	4.6-10	4.5-5.5
	50-65	4.6-13	2.0-5.6	4.5-5.5
13B:				
Mayodan	0-7	1.8-11	1.4-8.1	4.5-6.0
	7-45	12-22	9.2-17	4.5-5.5
	45-61	5.2-13	3.9-9.5	4.5-5.5
13C:				
Mayodan	0-7	1.8-11	1.4-8.1	4.5-6.0
	7-45	12-22	9.2-17	4.5-5.5
	45-61	5.2-13	3.9-9.5	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
13D:				
Mayodan----------------	0-7	1.8-11	1.4-8.1	4.5-6.0
	7-45	12-22	9.2-17	4.5-5.5
	45-61	5.2-13	3.9-9.5	4.5-5.5
14B:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-50	7.0-13	5.2-9.5	5.6-7.3
	50-65	5.2-13	3.9-9.5	5.6-7.3
15B:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-50	7.0-13	5.2-9.5	5.6-7.3
	50-65	5.2-13	3.9-9.5	5.6-7.3
Poindexter-----------	0-7	4.6-13	3.5-9.9	5.1-7.3
	7-21	7.0-13	5.2-10	5.1-7.3
	21-30	3.5-13	2.6-10	5.1-7.3
	30-51	---	---	---
	51-55	---	---	---
15C:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-50	7.0-13	5.2-9.5	5.6-7.3
	50-65	5.2-13	3.9-9.5	5.6-7.3
Poindexter-----------	0-7	4.6-13	3.5-9.9	5.1-7.3
	7-21	7.0-13	5.2-10	5.1-7.3
	21-30	3.5-13	2.6-10	5.1-7.3
	30-51	---	---	---
	51-55	---	---	---
15D:				
Mecklenburg----------	0-4	3.9-13	2.9-9.9	5.1-6.5
	4-39	14-22	10-17	5.6-7.3
	39-50	7.0-13	5.2-9.5	5.6-7.3
	50-65	5.2-13	3.9-9.5	5.6-7.3
Poindexter-----------	0-7	4.6-13	3.5-9.9	5.1-7.3
	7-21	7.0-13	5.2-10	5.1-7.3
	21-30	3.5-13	2.6-10	5.1-7.3
	30-51	---	---	---
	51-55	---	---	---
16B:				
Nason----------------	0-12	6.0-16	4.5-12	4.5-5.5
	12-45	8.8-16	6.6-12	4.5-5.5
	45-63	---	---	---
	63-67	---	---	---
17B:				
Nason----------------	0-12	6.0-16	4.5-12	4.5-5.5
	12-45	8.8-16	6.6-12	4.5-5.5
	45-63	---	---	---
	63-67	---	---	---

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
Manteo	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
17C:				
Nason	0-12	6.0-16	4.5-12	4.5-5.5
	12-45	8.8-16	6.6-12	4.5-5.5
	45-63	---	---	---
	63-67	---	---	---
Manteo	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
17D:				
Nason	0-12	6.0-16	4.5-12	4.5-5.5
	12-45	8.8-16	6.6-12	4.5-5.5
	45-63	---	---	---
	63-67	---	---	---
Manteo	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
18B:				
Pacolet	0-7	2.5-9.8	1.9-7.3	4.5-6.5
	7-29	6.2-12	4.6-8.7	4.5-6.0
	29-64	1.8-5.4	1.4-4.0	4.5-6.0
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
18C:				
Pacolet	0-7	2.5-9.8	1.9-7.3	4.5-6.5
	7-29	6.2-12	4.6-8.7	4.5-6.0
	29-64	1.8-5.4	1.4-4.0	4.5-6.0
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
18D:				
Pacolet	0-7	2.5-9.8	1.9-7.3	4.5-6.5
	7-29	6.2-12	4.6-8.7	4.5-6.0
	29-64	1.8-5.4	1.4-4.0	4.5-6.0
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
19E:				
Poindexter	0-7	4.6-13	3.5-9.9	5.1-7.3
	7-21	7.0-13	5.2-10	5.1-7.3
	21-30	3.5-13	2.6-10	5.1-7.3
	30-51	---	---	---
	51-55	---	---	---

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
20A:				
Riverview------------	0-6	4.6-14	3.5-10	4.5-5.5
	6-38	7.4-14	5.6-11	4.5-5.5
	38-65	2.5-13	1.9-9.6	4.5-5.5
21A:				
State----------------	0-6	3.6-11	2.7-8.1	3.5-5.5
	6-20	4.5-9.9	3.4-7.4	3.5-5.5
	20-38	4.5-12	3.4-9.3	3.5-6.5
	38-65	3.8-9.6	2.8-7.2	3.5-6.5
22B:				
Tatum----------------	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
Manteo---------------	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
22C:				
Tatum----------------	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
Manteo---------------	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
22D:				
Tatum----------------	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
Manteo---------------	0-7	3.6-14	2.7-10	3.5-5.5
	7-14	3.5-13	2.6-10	3.5-5.5
	14-18	---	---	---
23B:				
Tatum----------------	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
24B:				
Turbeville-----------	0-4	2.6-7.0	2.0-5.2	4.5-5.5
	4-65	3.5-7.1	2.6-5.3	4.5-5.5
24C:				
Turbeville-----------	0-4	2.6-7.0	2.0-5.2	4.5-5.5
	4-65	3.5-7.1	2.6-5.3	4.5-5.5
25B:				
Turbeville-----------	0-4	2.6-7.0	2.0-5.2	4.5-5.5
	4-65	3.5-7.1	2.6-5.3	4.5-5.5
Tatum----------------	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---

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
25C:				
Turbeville	0-4	2.6-7.0	2.0-5.2	4.5-5.5
	4-65	3.5-7.1	2.6-5.3	4.5-5.5
Tatum	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
25D:				
Turbeville	0-4	2.6-7.0	2.0-5.2	4.5-5.5
	4-65	3.5-7.1	2.6-5.3	4.5-5.5
Tatum	0-10	4.1-11	3.1-8.4	4.5-5.5
	10-41	8.8-16	6.6-12	4.5-5.5
	41-45	---	---	---
26:				
Udorthents	---	---	---	---
Urban land	---	---	---	---
27B:				
Wedowee	0-7	3.0-10	1.5-7.7	3.5-5.5
	7-25	5.4-11	4.6-8.1	3.5-5.5
	25-65	1.8-6.4	1.4-4.8	3.5-5.5
28C:				
Wedowee	0-7	3.0-10	1.5-7.7	3.5-5.5
	7-25	5.4-11	4.6-8.1	3.5-5.5
	25-65	1.8-6.4	1.4-4.8	3.5-5.5
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
28D:				
Wedowee	0-7	3.0-10	1.5-7.7	3.5-5.5
	7-25	5.4-11	4.6-8.1	3.5-5.5
	25-65	1.8-6.4	1.4-4.8	3.5-5.5
Louisburg	0-13	2.4-8.2	1.8-6.2	4.5-6.0
	13-28	1.8-6.6	1.3-5.0	4.5-6.0
	28-72	---	---	---
29A:				
Wehadkee	0-6	6.2-18	4.7-14	4.5-6.5
	6-45	6.3-17	4.7-13	4.5-6.5
	45-74	0.7-17	0.5-13	4.5-6.5
30A:				
Wingina	0-14	5.8-18	4.3-14	5.1-7.3
	14-72	7.4-17	5.6-13	5.1-7.3
31A:				
Yogaville	0-14	5.8-18	4.3-14	5.1-7.3
	14-72	7.4-17	5.6-13	5.1-7.3

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	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1A:										
Altavista	C	Low								
			Dec.-Feb.	1.5-2.5	>6.0	---	---	None	---	---
			Mar.-Apr.	1.5-2.5	>6.0	---	---	None	Very brief	Occasional
			May	2.5-6.0	>6.0	---	---	None	Very brief	Occasional
			June-July	---	---	---	---	None	Very brief	Occasional
			November	2.5-6.0	>6.0	---	---	None	---	---
2B:										
Appomattox	B	Medium								
			Dec.-Mar.	3.0-3.3	>6.0	---	---	None	---	None
			April	3.3-6.0	>6.0	---	---	None	---	None
			May-Oct.	---	---	---	---	None	---	None
			November	3.3-6.0	>6.0	---	---	None	---	None
Cullen	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
2C:										
Appomattox	B	Medium								
			Dec.-Mar.	3.0-3.3	>6.0	---	---	None	---	None
			April	3.3-6.0	>6.0	---	---	None	---	None
			May-Oct.	---	---	---	---	None	---	None
			November	3.3-6.0	>6.0	---	---	None	---	None
Cullen	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
3A:										
Batteau	C	Low								
			Nov.-Mar.	1.0-2.5	>6.0	---	---	None	Brief	Frequent
			April	2.5-6.0	>6.0	---	---	None	---	---
			October	2.5-6.0	>6.0	---	---	None	---	---
4B:										
Beckham	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
4C:										
Beckham	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None

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				
4D:										
Beckham	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
5B:										
Cecil	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
6A:										
Chewacla	C	Very high								
			January	0.5-1.5	>6.0	---	---	None	Long	Frequent
			February	0.5-1.5	>6.0	---	---	None	Long	Frequent
			March	0.5-1.5	>6.0	---	---	None	Long	Frequent
			April	0.5-1.5	>6.0	---	---	None	Long	Frequent
			November	0.5-1.5	>6.0	---	---	None	Long	Frequent
			December	0.5-1.5	>6.0	---	---	None	Long	Frequent
7B:										
Cullen	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
8B:										
Iredell	C/D	Very high								
			Dec.-Apr.	1.0-2.0	3.3-5.0	---	---	None	---	None
			May-Nov.	---	---	---	---	None	---	None
8C:										
Iredell	C/D	Very high								
			Dec.-Apr.	1.0-2.0	3.3-5.0	---	---	None	---	None
			May-Nov.	---	---	---	---	None	---	None
9E:										
Louisburg	B	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
10E:										
Manteo	C/D	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
Rock outcrop	D	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
11E:										
Manteo	C/D	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None

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				
12B:										
Mattaponi	C	Medium								
			Dec.-Mar.	3.0-6.0	4.5-6.6	---	---	None	---	None
			Apr.-Nov.	---	---	---	---	None	---	None
Cecil	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
12C:										
Mattaponi	C	Medium								
			Dec.-Mar.	3.0-6.0	4.5-6.6	---	---	None	---	None
			Apr.-Nov.	---	---	---	---	None	---	None
Cecil	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
13B:										
Mayodan	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
13C:										
Mayodan	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
13D:										
Mayodan	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
14B:										
Mecklenburg	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
15B:										
Mecklenburg	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Poindexter	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
15C:										
Mecklenburg	C	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Poindexter	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None

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				
15D:										
Mecklenburg----------------	C	High								
			Jan.-Dec.	---	---	---	---	None	---	None
Poindexter-----------------	B	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
16B:										
Nason----------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
17B:										
Nason----------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo---------------------	C/D	High								
			Jan.-Dec.	---	---	---	---	None	---	None
17C:										
Nason----------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo---------------------	C/D	High								
			Jan.-Dec.	---	---	---	---	None	---	None
17D:										
Nason----------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo---------------------	C/D	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
18B:										
Pacolet--------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Louisburg------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
18C:										
Pacolet--------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Louisburg------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None

Table 18.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
18D:										
Pacolet-------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
Louisburg-----------------	B	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
19E:										
Poindexter----------------	B	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
20A:										
Riverview-----------------	B	Low								
			January	3.0-5.0	>6.0	---	---	None	Brief	Occasional
			February	3.0-5.0	>6.0	---	---	None	Brief	Occasional
			March	3.0-5.0	>6.0	---	---	None	Brief	Occasional
			December	3.0-5.0	>6.0	---	---	None	Brief	Occasional
21A:										
State---------------------	B	Low								
			Dec.-June	4.0-6.6	>6.0	---	---	None	---	Rare
			July-Nov.	---	---	---	---	None	---	Rare
22B:										
Tatum---------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo--------------------	C/D	High								
			Jan.-Dec.	---	---	---	---	None	---	None
22C:										
Tatum---------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo--------------------	C/D	High								
			Jan.-Dec.	---	---	---	---	None	---	None
22D:										
Tatum---------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
Manteo--------------------	C/D	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None

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				
23B:										
Tatum	B	Medium	Jan.-Dec.	---	---	---	---	None	---	None
24B:										
Turbeville	C	Medium	Jan.-Dec.	---	---	---	---	None	---	None
24C:										
Turbeville	C	Medium	Jan.-Dec.	---	---	---	---	None	---	None
25B:										
Turbeville	C	Medium	Jan.-Dec.	---	---	---	---	None	---	None
Tatum	B	Medium	Jan.-Dec.	---	---	---	---	None	---	None
25C:										
Turbeville	C	Medium	Jan.-Dec.	---	---	---	---	None	---	None
Tatum	B	Medium	Jan.-Dec.	---	---	---	---	None	---	None
25D:										
Turbeville	C	High	Jan.-Dec.	---	---	---	---	None	---	None
Tatum	B	High	Jan.-Dec.	---	---	---	---	None	---	None
26:										
Udorthents	---	---	Jan.-Dec.	---	---	---	---	None	---	None
Urban land	---	---	Jan.-Dec.	---	---	---	---	None	---	None
27B:										
Wedowee	B	Medium	Jan.-Dec.	---	---	---	---	None	---	None

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				
28C:										
Wedowee-------------------	B	Medium								
			Jan.-Dec.	---	---	---	---	None	---	None
Louisburg-----------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
28D:										
Wedowee-------------------	B	High								
			Jan.-Dec.	---	---	---	---	None	---	None
Louisburg-----------------	B	Very high								
			Jan.-Dec.	---	---	---	---	None	---	None
29A:										
Wehadkee------------------	D	Very high								
			Nov.-May	0.0-1.0	>6.0	---	---	None	Long	Frequent
			June	---	---	---	---	None	Long	Frequent
30A:										
Wingina-------------------	B	Low								
			January	4.0	>6.0	---	---	None	Very brief	Occasional
			February	4.0	>6.0	---	---	None	Very brief	Occasional
			March	4.0	>6.0	---	---	None	Very brief	Occasional
			December	4.0	>6.0	---	---	None	Very brief	Occasional
31A:										
Yogaville-----------------	D	Very high								
			January	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			February	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			March	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			April	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			May	0.0-1.0	>6.0	---	---	None	Brief	Frequent
			December	0.0-1.0	>6.0	---	---	None	Brief	Frequent

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				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
1A:									
Altavista	---	---	---	---	0	---	Moderate	Moderate	Moderate
2B:									
Appomattox	---	---	---	---	0	---	Moderate	High	Moderate
Cullen	---	---	---	---	0	---	Moderate	High	Moderate
2C:									
Appomattox	---	---	---	---	0	---	Moderate	High	Moderate
Cullen	---	---	---	---	0	---	Moderate	High	Moderate
3A:									
Batteau	---	---	---	---	0	---	Moderate	Moderate	Low
4B:									
Beckham	---	---	---	---	0	---	Moderate	High	Moderate
4C:									
Beckham	---	---	---	---	0	---	Moderate	High	Moderate
4D:									
Beckham	---	---	---	---	0	---	Moderate	High	Moderate
5B:									
Cecil	---	---	---	---	0	---	Moderate	High	High
6A:									
Chewacla	---	---	---	---	0	---	Moderate	High	Moderate
7B:									
Cullen	---	---	---	---	0	---	Moderate	High	Moderate
8B:									
Iredell	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	Low
	Lithic bedrock	60-67	---	Indurated					

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
8C:									
Iredell	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	Low
	Lithic bedrock	60-67	---	Indurated					
9E:									
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
10E:									
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
Rock outcrop	Lithic bedrock	0-0	---	Indurated	0	---	None	---	---
11E:									
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
12B:									
Mattaponi	---	---	---	---	0	---	Moderate	High	High
Cecil	---	---	---	---	0	---	Moderate	High	High
12C:									
Mattaponi	---	---	---	---	0	---	Moderate	High	High
Cecil	---	---	---	---	0	---	Moderate	High	High
13B:									
Mayodan	---	---	---	---	0	---	Moderate	High	Moderate
13C:									
Mayodan	---	---	---	---	0	---	Moderate	High	Moderate
13D:									
Mayodan	---	---	---	---	0	---	Moderate	High	Moderate
14B:									
Mecklenburg	---	---	---	---	0	---	Moderate	High	Moderate
15B:									
Mecklenburg	---	---	---	---	0	---	Moderate	High	Moderate

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
Poindexter-------------	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Moderate
	Lithic bedrock	40-60	---	Indurated					
15C:									
Mecklenburg------------	---	---	---	---	0	---	Moderate	High	Moderate
Poindexter-------------	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Moderate
	Lithic bedrock	40-60	---	Indurated					
15D:									
Mecklenburg------------	---	---	---	---	0	---	Moderate	High	Moderate
Poindexter-------------	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Moderate
	Lithic bedrock	40-60	---	Indurated					
16B:									
Nason------------------	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Moderate	High
	Lithic bedrock	60-80	---	Indurated					
17B:									
Nason------------------	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Moderate	High
	Lithic bedrock	60-80	---	Indurated					
Manteo-----------------	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
17C:									
Nason------------------	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Moderate	High
	Lithic bedrock	60-80	---	Indurated					
Manteo-----------------	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
17D:									
Nason	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	Moderate	High
	Lithic bedrock	60-80	---	Indurated					
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
18B:									
Pacolet	---	---	---	---	0	---	Moderate	High	High
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
18C:									
Pacolet	---	---	---	---	0	---	Moderate	High	High
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
18D:									
Pacolet	---	---	---	---	0	---	Moderate	High	High
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
19E:									
Poindexter	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Moderate	Moderate
	Lithic bedrock	40-60	---	Indurated					
20A:									
Riverview	---	---	---	---	0	---	Moderate	Low	Moderate
21A:									
State	---	---	---	---	0	---	Moderate	Moderate	High
22B:									
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
22C:									
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
22D:									
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
Manteo	Lithic bedrock	10-20	---	Indurated	0	---	Moderate	Low	High
23B:									
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
24B:									
Turbeville	---	---	---	---	0	---	Moderate	High	High
24C:									
Turbeville	---	---	---	---	0	---	Moderate	High	High
25B:									
Turbeville	---	---	---	---	0	---	Moderate	High	High
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
25C:									
Turbeville	---	---	---	---	0	---	Moderate	High	High
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
25D:									
Turbeville	---	---	---	---	0	---	Moderate	High	High
Tatum	Paralithic bedrock	40-60	---	Moderately cemented	0	---	Moderate	High	High
26:									
Udorthents	---	---	---	---	---	---	---	---	---
Urban land	---	---	---	---	---	---	---	---	---

Table 19.—Soil Features—Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
27B:									
Wedowee	---	---	---	---	0	---	Moderate	Moderate	High
28C:									
Wedowee	---	---	---	---	0	---	Moderate	Moderate	High
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
28D:									
Wedowee	---	---	---	---	0	---	Moderate	Moderate	High
Louisburg	Paralithic bedrock	20-40	---	Moderately cemented	0	---	Moderate	Low	Moderate
29A:									
Wehadkee	---	---	---	---	0	---	High	High	Moderate
30A:									
Wingina	---	---	---	---	0	---	Moderate	Low	Moderate
31A:									
Yogaville	---	---	---	---	0	---	High	Low	Moderate

Table 20.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Altavista	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Appomattox	Fine, mixed, semiactive, thermic Oxyaquic Hapludults
Batteau	Fine-loamy, mixed, active, thermic Fluvaquentic Hapludolls
Beckham	Fine, kaolinitic, thermic Rhodic Paleudults
*Cecil	Fine, kaolinitic, thermic Typic Hapludults
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Cullen	Very-fine, kaolinitic, thermic Typic Hapludults
Iredell	Fine, mixed, active, thermic Oxyaquic Vertic Hapludalfs
Louisburg	Coarse-loamy, mixed, semiactive, thermic Ruptic-Ultic Dystrudepts
Manteo	Loamy-skeletal, mixed, semiactive, thermic Lithic Dystrudepts
Mattaponi	Fine, mixed, subactive, thermic Oxyaquic Hapludults
Mayodan	Fine, mixed, semiactive, thermic Typic Hapludults
Mecklenburg	Fine, mixed, active, thermic Ultic Hapludalfs
Nason	Fine, mixed, semiactive, thermic Typic Hapludults
*Pacolet	Fine, kaolinitic, thermic Typic Hapludults
Poindexter	Fine-loamy, mixed, active, thermic Typic Hapludalfs
Riverview	Fine-loamy, mixed, active, thermic Fluventic Dystrudepts
State	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Tatum	Fine, mixed, semiactive, thermic Typic Hapludults
Turbeville	Fine, kaolinitic, thermic Typic Kandiudults
Udorthents	Udorthents
*Wedowee	Fine, kaolinitic, thermic Typic Hapludults
Wehadkee	Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts
Wingina	Fine-loamy, mixed, thermic Fluventic Hapludolls
Yogaville	Fine-loamy, mixed, active, thermic Fluvaquentic Endoaquolls

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