United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with United States Department of Agriculture, Forest Service, and University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations

Soil Survey of Greene County, Georgia

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

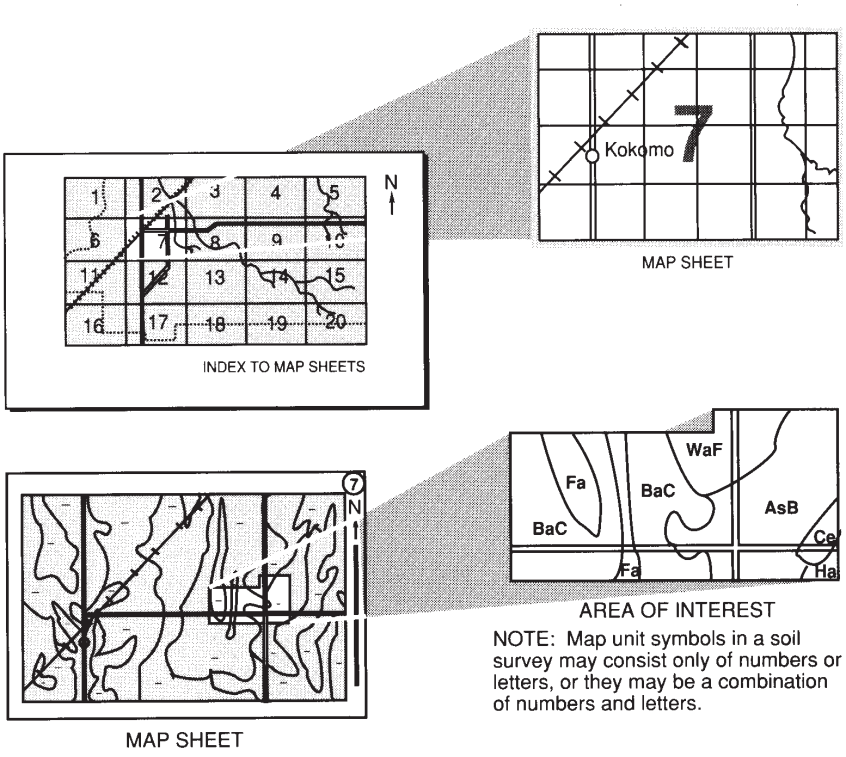
Detailed Soil Maps

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 has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the Natural Resources Conservation Service, the Forest Service, and the University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations. The survey is part of the technical assistance furnished to the Piedmont Soil and Water Conservation District.

Major fieldwork for this soil survey was completed in 2010. Soil names and descriptions were approved in 2011. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2011. The most current official data are available on the Internet.

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

Literature Citation

The correct citation for this survey is as follows:

United States Department of Agriculture, Natural Resources Conservation Service. 2013. Soil survey of Greene County, Georgia. (Accessible online at: http://soils.usda.gov/survey/printed_surveys/)

Cover Caption

Mixed hardwood forest growing on Pacolet sandy loam, 15 to 25 percent slopes, moderately eroded. This land use occurs throughout the county, occurring mostly on steeper slopes. These areas provide habitat and food for a variety of wildlife and contribute to the overall aesthetics of the county.

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

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Contents

Issued 2013

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.

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

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

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

James E. Tillman, Sr.
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Greene County, Georgia

By Dee C. Pederson and Gregory H. Clark, Natural Resources Conservation Service

Fieldwork by Gregory H. Clark, Dee C. Pederson, and Harley H. Payne, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
United Sates Department of Agriculture, Forest Service, and University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations

Greene County is located in the north-central part of Georgia (fig. 1). It has a total area of 259,900 acres, or about 388 square miles. Greensboro is the county seat. According to 2010 U.S. census data, the county has a population of 15,994 (http://www.greenecountyga.gov/).

The county is bounded by the Apalachee River and Lake Oconee to the west and by the North Fork of the Little River to the northeast. It is predominantly dissected by the South Fork of the Little River, the North Fork of the Ogeechee River, and Greenbrier, Fishing, and Richland Creeks and their tributaries.

Greene County is located in the Southern Piedmont Major Land Resource Area (MLRA 136). Most of the soils on uplands are well drained and have a loamy surface layer and a clayey subsoil.

General Nature of the Survey Area

This section provides general information about the survey area. It describes settlement history, agriculture, water resources, and climate.

Settlement History

The original inhabitants of Greene County were Native American mound-builders who built settlements on or near river plains. Examples of Mississippian-age mounds still exist. It is estimated that these communities existed during the period of 1200 to 1500 A.D. (Buckhout, 2001). The “Dyar” mound in the southwestern corner of the county and the mounds north of Scull Shoals in the northwestern corner of the county provide glimpses into the past way of life.

Many Native American tribes called the Oconee River region home. Whether or not these tribes were descendents of the mound-builders from previous centuries is uncertain. In the 1700s, traders called them the “Creek” due to the proximity of their

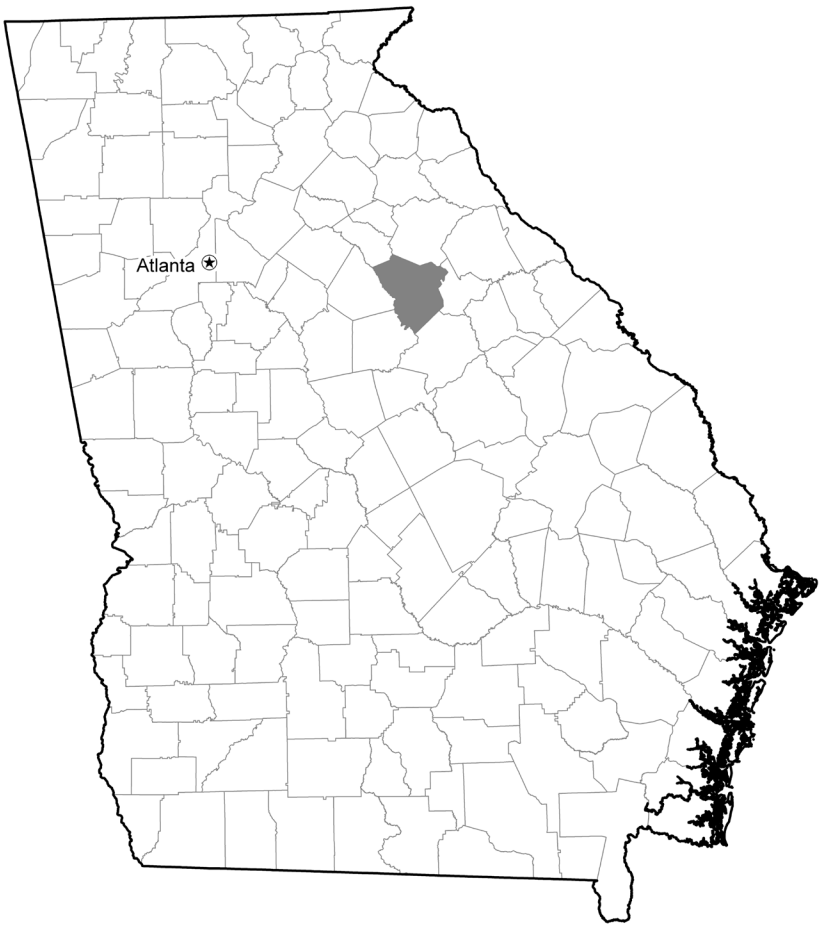

Figure 1.—Location of Greene County in Georgia.

villages to water. The Creek were primarily farmers and lived in established villages. Seasonal crops included beans, peas, pumpkins, squash, sweet potatoes, and corn. In addition to successful farming, the Creek were skilled hunters and warriors, obtaining mention in William Bartram's journal (Buckhout, 2001). Greene County was the northeastern boundary of Creek land, and Creek warriors were often involved in battles with the Cherokee Nation to the north.

British settlement of Georgia began in 1733, led by James Oglethorpe. By the 1750s, Georgia was a colony and traders began to explore beyond the areas along the Savannah River. The Creek were skeptical of the British in the beginning but, since they were also traders, they realized that the settlers could provide things that they needed. The British and Creek lived peacefully at first, but the relationship degraded over time. In 1773, a treaty was forced upon both the Creek and the Cherokee as payment to settle trading debt (Buckhout, 2001). Another treaty in 1782 ceded more Creek lands to the settlers. The Treaty of Shoulderbone Creek, signed by some Creek leaders in 1786, ceded even more land to Georgian colonists.

William Bartram's expedition of 1773 brought descriptions of a land bountiful in wildlife, plants, and timber throughout the Oconee River Valley. Population in the area grew overwhelmingly, and permanent settlements were established. Bethany was established along the shore of the Ogeechee River in the northeastern part of the county; Scull Shoals was established along the Oconee River in the northern part; and Greenesborough (later changed to Greensboro) was established in the central part.

In 1784, a western part of Washington County was surveyed; on February 3, 1786, an act of the Georgia State Legislature formed Greene County as the eleventh county in the State. The county was named for distinguished Revolutionary War veteran Nathanael Greene. Greensboro was designated as the permanent county seat on December 1, 1802 and was incorporated on December 10, 1803 (Cooksey, 1995).

As in many other Georgia counties, Greene County's economy became agriculturally based. Veterans of the Continental army were given large tracts of land and increased the population of Greene County tremendously. By 1800, the county population had swelled to over 10,000 residents. In the late 18th century and the 19th century, cotton was the dominant crop and plantations were established. Tax returns from 1788 show 12 men whose land holdings amounted to more than 1,000 acres each (Buckhout, 2001). On July 15, 1870, Georgia was permanently readmitted to the Union with Atlanta designated as the State capital. During this time, the local economy shifted from the farm to town, increasing the power and pocketbooks of merchants and lawyers. Agriculture's importance, however, was not extinguished and grew again in the late 19th and early 20th centuries. By 1900, Greene County had several milling operations in Penfield and Greensboro, a hosiery mill in Union Point, and the Southern Cotton Seed Oil Company (Buckhout, 2001). The intersection of two Georgia Railroad lines prompted the creation of the town of Union Point, first settled in the 1770s as Thornton's Cross Road and incorporated in 1901 (Cooksey, 1995).

Other towns in the county are Siloam, White Plains, and Woodville. With the construction of Wallace Dam, completed in 1980, Lake Oconee was created. It is the second largest lake in Georgia and is a popular recreational area for boating, fishing, camping, and hunting. The area has also become home to many golf course communities and subdivisions. While a majority of the acreage is privately owned, the 26,600 acres of the Oconee National Forest are federally owned.

Agriculture

Roger C. Webb, soil conservation technician, Natural Resources Conservation Service, helped prepared this section.

Prior to settlement, Greene County was predominantly covered by virgin forest. In the 1780s and 1790s the communities of Bethany, Scull Shoals, and Greenesborough (now Greensboro) were settled. The settlers needed timber for log cabins and land for cultivation and slowly began clearing the forest. They grew crops of corn, wheat, tobacco, and cotton.

The 1800s brought the growth of cotton plantations to Greene County. These plantations were located mainly in the red clay soils in the northern and western portions of the county. Over a dozen large, self-sufficient plantations sprang up in these sections of the county. In other parts of the county, smaller farms were settled. These farms were also self-sufficient and grew crops to trade for tools and much needed farm implements. As a result of poor farming practices and increased acreages of cotton, soil erosion reduced the productivity of the soils. In the early 1900s, cotton acreages slowly declined as soil erosion continued and yields decreased (Buckhout, 2001).

In the 1930s and 1940s, dairy operations began to sprout up over the county, and 12 dairy farms remain in operation today. Beef cattle farms also began to grow in number, and eroded crop fields were converted to pasture and hayland to provide forage for livestock. In 2009, Greene County had an estimated 13,045 head of cattle on these beef and dairy operations. There are approximately 30,000 acres of pastureland consisting mainly of common bermudagrass, hybrid bermudagrass, fescue, and bahiagrass.

By the 1960s, the poultry industry appeared in the county with the growth of layer operations. In 2007, the majority of poultry production consisted of broiler operations and about 15 farms sold 12.5 million broilers per year.

Since beef, dairy, and poultry are the major farming operations in the county, conservation management systems are targeted toward these operations. Prescribed grazing, nutrient management, and pest management systems are important management tools for protecting and conserving the land and water resources. The conservation practices most commonly installed on farms in the county include: heavy use area protection installed in areas of concentrated livestock traffic; alternative watering sources, such as water troughs, pipelines, and wells; waste storage facilities; dead bird composters and dry stack facilities; pasture and hayland planting; fencing to keep livestock from wetlands and other environmentally sensitive areas; and critical area planting.

In 1980, construction on Wallace Dam was completed on the Oconee River and Lake Oconee was formed. The 18,971-acre lake covers almost 11,000 acres in Greene County. Since the construction of Lake Oconee, many upscale residential communities have been developed in the county. This has increased urban development in the areas around the lake and decreased the acreages of forestland and pastureland. Because of the increase in urban development, soil and water conservation practices are essential in protecting the soil and water resource base in the county.

Water Resources

Gregory H. Clark, resource soil scientist, helped prepare this section.

The survey area encompasses parts of three watersheds: Little, Upper Ogeechee, and Upper Oconee (U.S. Environmental Protection Agency, 2011). The most abundant water sources are Lake Oconee, the Apalachee River, the North Fork of the Little River, the North and South Forks of the Ogeechee River, and Fishing and Richland Creeks.

The survey area contains numerous named perennial and unnamed intermittent creeks. Many farm ponds have been constructed in the watersheds of these creeks and are used for watering livestock, recreation, and irrigation. Edmonds Lake, Bear Lake, Ashley Lake, and Stewarts Lake are a few of the larger named ponds.

Greene County's municipal water service provides water to many of the residents that live in and around Greensboro and the surrounding communities. The county's water supply comes from the surface waters of Lake Oconee. Data on surface water use shows that the county's average daily withdrawal in 2000 was 10 to 20 million gallons. Water use in the county in 2000 was estimated at 12.4 million gallons per day: 75.9 percent was used for irrigation, 13.4 percent for public use, 7.4 percent for industrial and mining purposes, 2.2 percent for domestic use, and 1.1 percent for livestock (Fanning, 2001).

Residents living outside this service area rely primarily on privately drilled wells for their water supply. Ground water is available from a system of crystalline rock aquifers. In 2000, these aquifers supplied the Piedmont and Blue Ridge regions of Georgia a total of approximately 92 million gallons of water per day; domestic and commercial use accounted for 63 percent of the total (Fanning, 2001).

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Siloam in the period 1971 to 2000. 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 45.8 degrees F and the average daily minimum temperature is 34.9 degrees. The lowest temperature on record, which occurred at Siloam on January 21, 1985, is -7 degrees. In summer, the average temperature is 78.4 degrees and the average daily maximum temperature is 89.7

degrees. The highest temperature, which occurred at Siloam on August 21, 1983, is 107 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 (50 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 47.11 inches. Of this, 25.09 inches, or about 53 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.75 inches, recorded at Siloam on June 13, 2001. Thunderstorms occur on about 52 days each year, and most occur in July.

The average seasonal snowfall is 1.7 inches. The greatest snow depth at any one time during the period of record was 13 inches, recorded on February 10, 1973. On an average, no days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 13 inches, recorded on February 10, 1973.

The average relative humidity in mid-afternoon is about 54 percent. Humidity is higher at night, and the average at dawn is about 89 percent. The sun shines 70 percent of the time in summer and 57 percent in winter. The prevailing wind is from the northwest. Average windspeed is highest, 7.2 miles per hour, in February and March.

How This Survey Was Made

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

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA-NRCS, 2006). Soil survey areas typically consist of parts of one or more MLRAs.

The soils and miscellaneous areas in the survey area occur 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.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

1. Chewacla-Wickham-Wehadkee

Predominantly nearly level, well drained to poorly drained soils that have a loamy surface layer and a loamy underlying layer; on flood plains and stream terraces

Setting

Landform: Flood plains and stream terraces
Predominant slope range: 0 to 2 percent
Flooding: Frequently flooded
Hydrologic features: Sloughs, depressions, and beaver ponds throughout areas of the map unit
General location: Chewacla—slighty lower parts of the flood plain; Wickham—stream terraces above the flood plain; Wehadkee—depressions, backswamps, and sloughs of the flood plain

Extent and Composition

Extent of the map unit within the survey area: 2 percent
Extent of components within the map unit:
Chewacla soils—35 percent
Wickham soils—15 percent
Wehadkee soils (minor hydric component)—10 percent
Minor nonhydric soils—40 percent

Minor Soils

- Altavista soils on adjacent stream terraces
- Lloyd, Cecil, and Pacolet soils on adjacent backslopes of hills

2. Cecil-Pacolet

Predominantly gently sloping to moderately steep, well drained soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Landform: Hills
Predominant slope range: 2 to 25 percent
Hydrologic features: Few intermittent drainageways
General location: Summits and backslopes

Extent and Composition

Extent of the map unit within the survey area: 48 percent
Extent of components within the map unit:
Cecil soils—45 percent
Pacolet soils—15 percent
Minor components—40 percent

Minor Components

- Urban land in developed areas
- Chewacla and Wehadkee soils on adjacent flood plains
- Random areas of Cataula, Hard Labor, and Sedgefield soils on the lower or more concave portions of the landscape

3. Cecil-Cataula-Lloyd

Predominantly gently sloping to steep, well drained and moderately well drained soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Landform: Hills
Predominant slope range: 2 to 30 percent
Hydrologic features: Few intermittent drainageways
General location: Cecil—gently sloping or sloping summits and backslopes;
Cataula—gently sloping to moderately steep backslopes and footslopes;
Lloyd—gently sloping to steep summits and backslopes

Extent and Composition

Extent of the map unit within the survey area: 5 percent
Extent of components within the map unit:
Cecil soils—25 percent
Cataula soils—15 percent
Lloyd soils—10 percent
Minor soils—50 percent

Minor Soils

- Sedgefield and Helena soils on footslopes and toeslopes
- Bush River and Prosperity soils on the higher portions of backslope areas
- Chewacla and Wehadkee soils on adjacent flood plains
- Appling, Mecklenburg, and Pacolet soils in similar landscape positions

4. Cecil-Lloyd

Predominantly sloping to steep, well drained soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Landform: Hills
Predominant slope range: 6 to 30 percent
Hydrologic features: Intermittent drainageways and perennial streams
General location: Cecil—sloping summits and backslopes; Lloyd—sloping to steep shoulders and backslopes

Extent and Composition

Extent of the map unit within the survey area: 30 percent
Extent of components within the map unit:
Cecil soils—30 percent
Lloyd soils—20 percent
Minor soils—50 percent

Minor Soils

- Chewacla and Wehadkee soils on adjacent flood plains
- Cataula, Hard Labor, and Prosperity soils on lower backslopes and toeslopes
- Pacolet and Georgeville soils in similar landscape positions

5. Hard Labor-Appling-Cecil

Predominantly gently sloping to moderately steep, well drained and moderately well drained soils that have a loamy surface layer and a clayey subsoil; on uplands

Setting

Landform: Hills
Predominant slope range: 2 to 30 percent
Hydrologic features: Intermittent drainageways and perennial streams
General location: Shoulders and backslopes

Extent and Composition

Extent of the map unit within the survey area: 15 percent
Extent of components within the map unit:
Hard Labor soils—25 percent
Appling soils—15 percent
Cecil soils—20 percent
Minor soils—40 percent

Minor Soils

- Chewacla and Wehadkee soils on adjacent flood plains
- Pacolet and Lloyd soils on gently sloping summits and upper backslopes
- Mecklenburg and Wynott soils on moderately sloping shoulders and backslopes
- Cataula, Bush River, and Prosperity soils on lower backslopes and toeslopes

Detailed Soil Map Units

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

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

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. The soils of a given series can differ in texture of the surface layer, slope, stoniness, 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, Wickham sandy loam, 2 to 6 percent slopes, rarely flooded is a phase of the Wickham series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

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. Sedgefield-Crawfordville complex, 6 to 15 percent slopes is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop 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.

AkB—Altavista sandy loam, 2 to 6 percent slopes, rarely flooded

Map Unit Composition

Altavista and similar soils: About 80 percent

Minor Components

- Wickham soils, which are well drained and occur on the higher portions of the landscape

Description of the Altavista Soil

Setting
Landform: Stream terraces
Slope: Gently sloping
Parent material: Loamy alluvium

Typical Profile
Surface layer:
0 to 7 inches—brown sandy loam
Subsoil:
7 to 24 inches—yellowish brown sandy clay loam
24 to 43 inches—pale yellow sandy clay loam that has yellowish brown and brownish yellow masses of oxidized iron and light gray iron depletions
43 to 60 inches—light gray and brownish yellow sandy loam that has yellowish red masses of oxidized iron

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; apparent
Flooding: Rare
Ponding: None
Permeability: Moderate

Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

CaD—Cataula coarse sandy loam, 6 to 15 percent slopes, very bouldery

Map Unit Composition

Cataula and similar soils: About 70 percent

Minor Components

- Cecil and Pacolet soils, which are well drained
- Areas of rock outcrop

Description of the Cataula Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 6 inches—brown coarse sandy loam
Subsoil:
6 to 18 inches—yellowish red sandy clay
18 to 28 inches—red sandy clay
28 to 31 inches—red sandy clay that has brownish yellow masses of oxidized iron
31 to 44 inches—yellowish brown sandy clay loam that has light brownish gray iron depletions
44 to 60 inches—yellowish brown sandy clay loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6s

CcD2—Cataula-Cecil complex, 6 to 15 percent slopes, moderately eroded

Map Unit Composition

Cataula and similar soils: About 60 percent
Cecil and similar soils: About 40 percent

Description of the Cataula Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—reddish brown sandy loam
Subsoil:
3 to 7 inches—red sandy clay loam
7 to 17 inches—red clay
17 to 31 inches—red clay loam that has light brown masses of oxidized iron
31 to 47 inches—red sandy clay loam that has very pale brown and dark red masses of oxidized iron and light gray iron depletions
Substratum:
47 to 72 inches—red sandy loam saprolite

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Summits and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—dark reddish gray sandy loam
Subsoil:
3 to 10 inches—reddish brown sandy clay loam
10 to 40 inches—red sandy clay
40 to 55 inches—red sandy clay loam
Substratum:
55 to 60 inches—red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate

Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

CeB2—Cecil gravelly sandy loam, 2 to 6 percent slopes, moderately eroded

Map Unit Composition

Cecil and similar soils: About 90 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Summits and shoulders
Slope: Gently sloping
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—brown gravelly sandy loam
Subsoil:
3 to 7 inches—reddish brown gravelly sandy clay loam
7 to 32 inches—red clay
32 to 56 inches—red clay that has reddish yellow mottles
56 to 72 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

CeC2—Cecil gravelly sandy loam, 6 to 10 percent slopes, moderately eroded

Map Unit Composition

Cecil and similar soils: About 90 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Sloping
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—brown gravelly sandy loam
Subsoil:
3 to 7 inches—reddish brown gravelly sandy clay loam
7 to 32 inches—red clay
32 to 56 inches—red clay
56 to 72 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

CfE3—Cecil-Cataula complex, 10 to 25 percent slopes, severely eroded

Map Unit Composition

Cecil and similar soils: About 75 percent
Cataula and similar soils: About 15 percent

Minor Components

- Mecklenburg soils, which have mixed mineralogy and occur in landscape positions similar to those of the Cecil soil

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Strongly sloping or moderately steep
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 2 inches—reddish brown sandy clay loam
Subsoil:
2 to 45 inches—red clay
45 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

Description of the Cataula Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Strongly sloping or moderately steep
Parent material: Residuum weathered from igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 5 inches—reddish brown sandy clay loam
Subsoil:
5 to 30 inches—yellowish red clay
30 to 50 inches—red clay that has light gray iron depletions and reddish yellow masses of oxidized iron
50 to 60 inches—red clay loam that has pink and reddish yellow masses of oxidized iron

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

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

Map Unit Composition

Chewacla and similar soils: About 70 percent

Minor Components

- Congaree soils, which can have a seasonal high water table at a depth between 2.5 and 4 feet
- Wehadkee soils, which have a seasonal high water table within a depth of 1.0 foot

Description of the Chewacla Soil

Setting
Landform: Flood plains

Slope: Nearly level
Parent material: Loamy alluvium

Typical Profile
Surface layer:
0 to 6 inches—brown silt loam
Subsoil:
6 to 24 inches—light yellowish brown silt loam that has light gray iron depletions and yellowish red masses of oxidized iron
24 to 31 inches—reddish brown sandy loam
31 to 44 inches—brown and gray silty clay loam that has brownish yellow and strong brown masses of oxidized iron
44 to 60 inches—gray clay loam

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 0.5 foot to 2.0 feet; apparent
Flooding: Frequent
Ponding: None
Permeability: Moderate
Available water capacity: High
Depth class: Very deep

Interpretive Groups
Land capability class: 4w

COA—Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded (fig. 2)

Map Unit Composition

Chewacla and similar soils: About 55 percent
Congaree and similar soils: About 40 percent

Minor Components

- Wehadkee soils, which have a seasonal high water table within a depth of 1.0 foot
- Wickham soils, which occur on adjacent stream terraces

Description of the Chewacla Soil

Setting
Landform: Flood plains
Slope: Nearly level
Parent material: Loamy alluvium

Typical Profile
Surface layer:
0 to 6 inches—dark brown sandy loam
Subsoil:
6 to 16 inches—dark yellowish brown sandy loam
16 to 27 inches—strong brown clay loam that has white iron depletions and brown masses of oxidized iron
Substratum:
27 to 40 inches—brown clay loam that has yellowish red masses of oxidized iron
40 to 50 inches—brown sandy loam that has strong brown masses of oxidized iron
50 to 60 inches—gray sandy clay loam

Figure 2.—Bottom-land hardwood forest in an area of Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded. This land use provides habitat for a variety of wildlife, enhances aesthetic value, and protects water sources by acting as a riparian buffer.

Properties and Qualities

Drainage class: Somewhat poorly drained
Depth to water table: About 0.5 foot to 2.0 feet; apparent
Flooding: Frequent
Ponding: None
Permeability: Moderate
Available water capacity: High
Depth class: Very deep

Interpretive Groups

Land capability class: 4w

Description of the Congaree Soil

Setting

Landform: Flood plains
Slope: Nearly level
Parent material: Loamy alluvium

Typical Profile

Surface layer:
0 to 4 inches—yellowish brown sandy loam
Substratum:
4 to 18 inches—yellowish red sandy loam
18 to 34 inches—dark reddish brown sandy clay loam
34 to 41 inches—reddish brown sandy loam
41 to 60 inches—reddish brown clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: About 3.3 to 4.0 feet; apparent
Flooding: Frequent
Ponding: None
Permeability: Moderate
Available water capacity: High
Depth class: Very deep

Interpretive Groups
Land capability class: 3w

GeB2—Georgeville gravelly very fine sandy loam, 2 to 6 percent slopes, moderately eroded

Map Unit Composition

Georgeville and similar soils: About 90 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Georgeville Soil

Setting
Landform: Hills
Position on the landform: Shoulders
Slope: Gently sloping
Parent material: Residuum weathered from metavolcanics

Typical Profile
Surface layer:
0 to 5 inches—brown gravelly very fine sandy loam
Subsoil:
5 to 12 inches—yellowish red clay loam
12 to 37 inches—red clay
Substratum:
37 to 55 inches—pink and red silt loam and silty clay loam
55 to 72 inches—light red silt loam
72 to 96 inches—yellow silt loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

GeD2—Georgeville gravelly very fine sandy loam, 6 to 15 percent slopes, moderately eroded

Map Unit Composition

Georgeville and similar soils: About 90 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Georgeville Soil

Setting
Landform: Hills
Position on the landform: Backslopes and shoulders
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from metavolcanics

Typical Profile
Surface layer:
0 to 5 inches—brown gravelly very fine sandy loam
Subsoil:
5 to 12 inches—yellowish red clay loam
12 to 37 inches—red clay
Substratum:
37 to 55 inches—pink silt loam and silty clay loam
55 to 72 inches—light red silt loam
72 to 96 inches—yellow silt loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

HaB—Hard Labor-Appling complex, 2 to 6 percent slopes (fig. 3)

Map Unit Composition

Hard Labor and similar soils: About 55 percent
Appling and similar soils: About 45 percent

Description of the Hard Labor Soil

Setting
Landform: Hills
Position on the landform: Summits and footslopes
Slope: Gently sloping

Figure 3.—Crimson clover planted in an area of Hard Labor-Appling complex, 2 to 6 percent slopes. Crimson clover is a cover crop that produces nitrogen. The cover crop reduces the hazard of erosion, and *in situ* nitrogen production enhances soil nutrients.

Parent material: Residuum weathered from felsic igneous and metamorphic rocks; primarily granite and granite gneiss

Typical Profile
Surface layer:
0 to 7 inches—brown gravelly sandy loam
Subsoil:
7 to 16 inches—yellowish brown sandy clay loam
16 to 25 inches—strong brown clay
25 to 33 inches—strong brown clay that has olive yellow and red masses of oxidized iron
33 to 50 inches—red clay that has olive yellow masses of oxidized iron and light gray iron depletions
50 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

Description of the Appling Soil

Setting
Landform: Hills
Position on the landform: Summits and backslopes
Slope: Gently sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—very dark grayish brown gravelly sandy loam
Subsurface layer:
3 to 16 inches—yellowish brown gravelly sandy loam
Subsoil:
16 to 26 inches—yellowish red sandy clay
26 to 34 inches—yellowish red sandy clay that has yellowish brown and yellowish red mottles
34 to 40 inches—yellowish brown sandy clay that has red mottles
40 to 48 inches—red sandy clay loam
Substratum:
48 to 60 inches—yellowish brown coarse sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

HaC—Hard Labor-Appling complex, 6 to 10 percent slopes

Map Unit Composition

Hard Labor and similar soils: About 45 percent
Appling and similar soils: About 40 percent

Minor Components

- Helena soils, which have mixed mineralogy and a seasonal high water table at a depth between 1.5 and 2.5 feet

Description of the Hard Labor Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks; primarily granite and granite gneiss

Typical Profile
Surface layer:
0 to 7 inches—brown gravelly sandy loam
Subsoil:
7 to 16 inches—yellowish brown sandy clay loam
16 to 25 inches—strong brown clay
25 to 33 inches—strong brown clay that has olive yellow and red masses of oxidized iron
33 to 50 inches—red clay that has olive yellow masses of oxidized iron and light gray iron depletions
50 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

Description of the Appling Soil

Setting
Landform: Hills
Position on the landform: Backslopes and footslopes
Slope: Sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—very dark grayish brown gravelly sandy loam
Subsurface layer:
3 to 16 inches—yellowish brown gravelly sandy loam
Subsoil:
16 to 26 inches—yellowish red sandy clay
26 to 34 inches—yellowish red sandy clay that has yellowish brown and yellowish red mottles
34 to 40 inches—yellowish brown sandy clay that has red mottles
40 to 48 inches—red sandy clay loam
Substratum:
48 to 60 inches—yellowish brown coarse sandy loam

Properties and Qualities

Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

HcB—Hard Labor-Cecil complex, 2 to 6 percent slopes

Map Unit Composition

Hard Labor and similar soils: About 45 percent
Cecil and similar soils: About 40 percent

Minor Components

- Appling soils, which have a subsoil with yellow colors
- Helena soils, which have mixed mineralogy and a seasonal high water table at a depth between 1.5 and 2.5 feet
- Prosperity soils, which have mixed mineralogy, a seasonal high water table at a depth between 1.5 and 2.5 feet, and a paralithic contact at a depth between 20 and 40 inches

Description of the Hard Labor Soil

Setting
Landform: Hills
Position on the landform: Summits and footslopes
Slope: Gently sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks; primarily granite and granite gneiss

Typical Profile
Surface layer:
0 to 3 inches—brown sandy loam
Subsurface layer:
3 to 9 inches—light yellowish brown sandy loam
Subsoil:
9 to 15 inches—reddish yellow sandy clay loam
15 to 22 inches—reddish yellow sandy clay
22 to 32 inches—brownish yellow sandy clay
32 to 38 inches—brownish yellow sandy clay that has light gray iron depletions
38 to 60 inches—brownish yellow sandy clay loam that has light gray iron depletions

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Summits and backslopes
Slope: Gently sloping
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—reddish brown sandy loam
Subsoil:
3 to 9 inches—red sandy loam
9 to 43 inches—red clay
43 to 56 inches—red clay loam
56 to 60 inches—red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

HdC2—Hard Labor-Cecil complex, 6 to 10 percent slopes, moderately eroded

Map Unit Composition

Hard Labor and similar soils: About 55 percent
Cecil and similar soils: About 40 percent

Minor Components

- Helena soils, which have mixed mineralogy and a seasonal high water table at a depth between 1.5 and 2.5 feet

Description of the Hard Labor Soil

Setting
Landform: Hills
Position on the landform: Backslopes and footslopes
Slope: Sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks; primarily granite and granite gneiss

Typical Profile
Surface layer:
0 to 4 inches—brown sandy loam
Subsoil:
4 to 12 inches—yellowish brown sandy clay loam
12 to 32 inches—light yellowish brown sandy clay that has red and brownish yellow masses of oxidized iron
32 to 41 inches—light yellowish brown clay that has light brownish gray iron depletions
41 to 60 inches—light yellowish brown sandy clay loam that has light gray iron depletions

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None

Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

Description of the Cecil Soil

Setting
Landform: Hills
Position on the landform: Summits and backslopes
Slope: Sloping
Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—dark reddish gray sandy loam
Subsoil:
3 to 10 inches—reddish brown sandy clay loam
10 to 40 inches—red sandy clay
40 to 55 inches—red sandy clay loam
Substratum:
55 to 60 inches—red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

HeB—Helena loamy coarse sand, 2 to 6 percent slopes

Map Unit Composition

Helena and similar soils: About 70 percent

Minor Components

- Prosperity soils, which have a paralithic contact at a depth between 20 and 40 inches
- Hard Labor soils, which have kaolinitic mineralogy and a seasonal high water table at a depth between 2.5 and 3.5 feet

Description of the Helena Soil

Setting
Landform: Broad hills
Position on the landform: Summits and footslopes
Slope: Gently sloping

Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—pale brown loamy coarse sand
Subsurface layer:
3 to 8 inches—light yellowish brown loamy coarse sand
Subsoil:
8 to 19 inches—pale yellow coarse sandy loam
19 to 27 inches—pale yellow sandy clay that has very pale brown iron depletions and brownish yellow masses of oxidized iron
27 to 42 inches—light gray sandy clay that has very pale brown iron depletions and brownish yellow and reddish yellow masses of oxidized iron
Substratum:
42 to 60 inches—light gray clay loam that has yellow masses of oxidized iron

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

HnC—Helena loamy sand, 6 to 10 percent slopes

Map Unit Composition

Helena and similar soils: About 80 percent

Minor Components

- Cecil and Madison soils, which are well drained and occur in the higher landscape positions

Description of the Helena Soil

Setting
Landform: Broad hills
Position on the landform: Backslopes
Slope: Sloping
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 5 inches—dark grayish brown loamy sand
Subsurface layer:
5 to 18 inches—yellowish brown loamy sand
Subsoil:
18 to 29 inches—olive yellow sandy clay that has light brownish gray iron depletions
29 to 55 inches—yellowish brown sandy clay that has yellowish brown masses of oxidized iron and gray iron depletions
55 to 60 inches—pale yellow sandy clay loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

LdB2—Lloyd gravelly loam, 2 to 6 percent slopes, moderately eroded

Map Unit Composition

Lloyd and similar soils: About 100 percent

Description of the Lloyd Soil

Setting
Landform: Hills
Position on the landform: Shoulders and summits
Slope: Gently sloping
Parent material: Residuum weathered from intermediate and mafic, igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—dark reddish brown gravelly loam
Subsoil:
3 to 10 inches—dark red gravelly clay loam
10 to 38 inches—dark red clay
38 to 48 inches—red clay
48 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

LdD2—Lloyd gravelly loam, 6 to 15 percent slopes, moderately eroded

Map Unit Composition

Lloyd and similar soils: About 90 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Lloyd Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from intermediate and mafic, igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—dark reddish brown gravelly loam
Subsoil:
3 to 10 inches—dark red gravelly clay loam
10 to 38 inches—dark red clay
38 to 48 inches—red clay
48 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

LdE2—Lloyd gravelly loam, 15 to 30 percent slopes, moderately eroded

Map Unit Composition

Lloyd and similar soils: About 69 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Lloyd Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Moderately steep or steep
Parent material: Residuum weathered from intermediate and mafic, igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—dark reddish brown gravelly loam

Subsoil:
3 to 10 inches—dark red gravelly clay loam
10 to 38 inches—dark red clay
38 to 48 inches—red clay
48 to 60 inches—red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

LfB3—Lloyd sandy clay loam, 2 to 6 percent slopes, severely eroded

Map Unit Composition

Lloyd and similar soils: About 85 percent

Minor Components

- Cataula soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Lloyd Soil

Setting
Landform: Hills
Position on the landform: Summits
Slope: Gently sloping
Parent material: Residuum weathered from intermediate and mafic, igneous and high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—dark reddish brown sandy clay loam
Subsoil:
4 to 25 inches—dark red clay
25 to 40 inches—red clay
40 to 50 inches—red sandy clay loam
50 to 60 inches—red loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 3e

M-W—Miscellaneous water

Map Unit Composition

Water: About 100 percent

Description of the Water

This map unit consists of manmade water areas that are used for industrial, sanitary, or mining applications and contain water most of the year.

MbD—Mecklenburg-Crawfordville complex, 6 to 15 percent slopes

Map Unit Composition

Mecklenburg and similar soils: About 35 percent
Crawfordville and similar soils: About 30 percent

Minor Components

- Sedgefield soils, which are somewhat poorly drained and do not have a paralithic contact within a depth of 60 inches
- Wynott soils, which have a paralithic contact at a depth between 20 and 40 inches

Description of the Mecklenburg Soil

Setting
Landform: Hills
Position on the landform: Backslopes, summits, and shoulders
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 5 inches—yellowish brown sandy loam
Subsoil:
5 to 12 inches—brown sandy loam
12 to 27 inches—red clay
27 to 43 inches—red clay
43 to 60 inches—yellowish brown loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Crawfordville Soil

Setting
Landform: Hills
Position on the landform: Backslopes and footslopes

Slope: Sloping or strongly sloping
Parent material: Residuum weathered from dark-colored mafic rocks

Typical Profile
Surface layer:
0 to 3 inches—very dark grayish brown sandy loam
Subsurface layer:
3 to 7 inches—light yellowish brown sandy loam
Subsoil:
7 to 13 inches—brownish yellow clay that has pale brown iron depletions
13 to 35 inches—brownish yellow clay that has gray iron depletions
Substratum:
35 to 38 inches—light brownish gray clay loam
Bedrock:
38 to 40 inches—weathered bedrock

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Very slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 4e

McE2—Mecklenburg-Prosperity-Helena complex, 15 to 25 percent slopes, moderately eroded

Map Unit Composition

Mecklenburg and similar soils: About 40 percent
Prosperity and similar soils: About 35 percent
Helena and similar soils: About 15 percent

Minor Components

- Lloyd soils, which have kaolinitic mineralogy
- Wynott soils, which have a paralithic contact at a depth between 20 and 40 inches

Description of the Mecklenburg Soil

Setting
Landform: Hills
Position on the landform: Backslopes and shoulders
Slope: Moderately steep
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 2 inches—very dark grayish brown sandy loam
Subsoil:
2 to 27 inches—yellowish red clay
27 to 47 inches—yellowish red clay
47 to 57 inches—yellowish red clay loam

Substratum:
57 to 60 inches—red loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

Description of the Prosperity Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Moderately steep
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—yellowish brown sandy loam
Subsoil:
4 to 20 inches—yellowish red clay
20 to 34 inches—yellowish brown clay that has light brownish gray iron depletions
34 to 36 inches—light yellowish brown clay loam
Bedrock:
36 to 46 inches—weathered bedrock

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 6e

Description of the Helena Soil

Setting
Landform: Hills
Position on the landform: Footslopes
Slope: Moderately steep
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 5 inches—brown sandy loam

Subsoil:
5 to 24 inches—yellowish red clay
24 to 34 inches—very pale brown clay that has light brownish gray iron depletions
34 to 45 inches—brownish yellow clay
Substratum:
45 to 60 inches—light yellowish brown sandy loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

MeB2—Mecklenburg-Sedgefield complex, 2 to 6 percent slopes, moderately eroded

Map Unit Composition

Mecklenburg and similar soils: About 44 percent
Sedgefield and similar soils: About 35 percent

Minor Components

- Crawfordville soils, which have a paralithic contact at a depth between 20 and 40 inches and a seasonal high water table at a depth between 1.0 and 1.5 feet
- Lloyd soils, which have kaolinitic mineralogy and a subsoil with rhodic colors
- Wynott soils, which have a paralithic contact at a depth between 20 and 40 inches

Description of the Mecklenburg Soil

Setting
Landform: Hills
Position on the landform: Summits and backslopes
Slope: Gently sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 4 inches—dark reddish brown sandy loam
Subsoil:
4 to 26 inches—red clay
26 to 50 inches—yellowish red clay
50 to 60 inches—yellowish red clay loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Slow

Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

Description of the Sedgefield Soil

Setting
Landform: Hills and interfluves
Position on the landform: Summits and footslopes
Slope: Gently sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 4 inches—brown sandy loam
Subsoil:
4 to 12 inches—strong brown sandy clay loam
12 to 22 inches—strong brown clay that has red masses of oxidized iron and light brownish gray iron depletions
22 to 28 inches—strong brown clay that has light brownish gray iron depletions
28 to 37 inches—brownish yellow clay that has light brownish gray iron depletions and red masses of oxidized iron
Substratum:
37 to 60 inches—brownish yellow sandy loam

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

MkD2—Mecklenburg-Wynott complex, 2 to 15 percent slopes, moderately eroded

Map Unit Composition

Mecklenburg and similar soils: About 37 percent
Wynott and similar soils: About 28 percent

Minor Components

- Helena soils, which have a seasonal high water table at a depth between 1.5 and 2.5 feet
- Lloyd soils, which have kaolinitic mineralogy

Description of the Mecklenburg Soil

Setting
Landform: Hills

Position on the landform: Backslopes, summits, and shoulders
Slope: Gently sloping to strongly sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 2 inches—very dark grayish brown sandy loam
Subsoil:
2 to 47 inches—yellowish red clay
47 to 57 inches—yellowish red clay loam
Substratum:
57 to 60 inches—red loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Wynott Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Gently sloping to strongly sloping
Parent material: Residuum weathered from dark-colored mafic crystalline rocks

Typical Profile
Surface layer:
0 to 4 inches—very dark grayish brown sandy loam
Subsoil:
4 to 7 inches—dark yellowish brown sandy clay loam
7 to 10 inches—yellowish brown clay that has red and yellowish red mottles
10 to 18 inches—light yellowish brown clay that has red and yellowish red mottles
18 to 23 inches—light yellowish brown clay that has brownish yellow mottles
Bedrock:
23 to 68 inches—weathered bedrock
68 inches—hard bedrock

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 4e

PaB—Pacolet loamy sand, 2 to 6 percent slopes, bouldery

Map Unit Composition

Pacolet and similar soils: About 73 percent

Minor Components

- Cataula and Hard Labor soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Pacolet Soil

Setting
Landform: Hills
Position on the landform: Summits and shoulders
Slope: Gently sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—yellowish brown loamy sand
Subsurface layer:
3 to 12 inches—yellowish brown loamy sand
Subsoil:
12 to 28 inches—red sandy clay
Substratum:
28 to 60 inches—red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6s

PaD—Pacolet loamy sand, 6 to 15 percent slopes, bouldery

Map Unit Composition

Pacolet and similar soils: About 60 percent

Minor Components

- Cataula and Hard Labor soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Pacolet Soil

Setting
Landform: Hills
Position on the landform: Backslopes

Slope: Sloping or strongly sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—yellowish brown loamy sand
Subsurface layer:
3 to 12 inches—yellowish brown loamy sand
Subsoil:
12 to 28 inches—red sandy clay
Substratum:
28 to 60 inches—red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6s

PcD2—Pacolet sandy loam, 6 to 15 percent slopes, moderately eroded

Map Unit Composition

Pacolet and similar soils: About 93 percent

Minor Components

- Cataula and Hard Labor soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet
- Lloyd soils, which have a thicker argillic horizon and a subsoil with rhodic colors

Description of the Pacolet Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—dark brown sandy loam
Subsoil:
4 to 6 inches—red sandy clay loam
6 to 28 inches—red sandy clay
28 to 42 inches—yellowish red sandy clay loam
Substratum:
42 to 60 inches—yellowish red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

PcE2—Pacolet sandy loam, 15 to 25 percent slopes, moderately eroded

Map Unit Composition

Pacolet and similar soils: About 93 percent

Minor Components

- Cataula and Hard Labor soils, which have a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Pacolet Soil

Setting
Landform: Hills
Position on the landform: Backslopes
Slope: Moderately steep
Parent material: Residuum weathered from felsic igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—dark brown sandy loam
Subsoil:
4 to 6 inches—red sandy clay loam
6 to 18 inches—red sandy clay
18 to 28 inches—red sandy clay
28 to 42 inches—yellowish red sandy clay loam
Substratum:
42 to 60 inches—yellowish red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6e

PfD2—Pacolet-Cataula complex, 6 to 15 percent slopes, moderately eroded

Map Unit Composition

Pacolet and similar soils: About 49 percent
Cataula and similar soils: About 38 percent

Minor Components

- Lloyd soils, which have a subsoil with rhodic colors
- Prosperity soils, which have a seasonal high water table at a depth between 1.5 and 2.5 feet and a paralithic contact at a depth between 20 and 40 inches
- Mecklenburg soils, which have base saturation of 35 percent or more

Description of the Pacolet Soil

Setting
Landform: Hills
Position on the landform: Shoulders and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—dark brown sandy loam
Subsoil:
4 to 6 inches—red sandy clay loam
6 to 28 inches—red sandy clay
28 to 42 inches—yellowish red sandy clay loam
Substratum:
42 to 60 inches—yellowish red sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Cataula Soil

Setting
Landform: Hills
Position on the landform: Backslopes and shoulders
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from igneous and metamorphic rocks

Typical Profile
Surface layer:
0 to 3 inches—reddish brown sandy loam
Subsoil:
3 to 7 inches—red sandy clay loam
7 to 17 inches—red clay

17 to 31 inches—red clay loam that has light brown masses of oxidized iron
31 to 47 inches—red sandy clay loam that has very pale brown and dark red masses of oxidized iron and light gray iron depletions
Substratum:
47 to 72 inches—red sandy loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 2.5 to 3.3 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Pq—Pits, quarries

Map Unit Composition

Pits and quarries: About 100 percent

Description of the Pits, Quarries

This map unit consists of areas where the soil and saprolite have been removed as overburden and the hard bedrock has been mined for aggregate or dimension stone to some depth. In a few small areas along the edges of this map unit, a few inches of disturbed soil material is scattered over the surface.

PrD—Prosperity-Helena-Bush River complex, 6 to 15 percent slopes

Map Unit Composition

Prosperity and similar soils: About 38 percent
Helena and similar soils: About 31 percent
Bush River and similar soils: About 13 percent

Minor Components

- Hard Labor and Cataula soils, which have kaolinitic mineralogy and a seasonal high water table at a depth between 2.5 and 3.3 feet

Description of the Prosperity Soil

Setting
Landform: Interfluves and hills
Position on the landform: Shoulders and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 4 inches—very dark grayish brown sandy loam

Subsurface layer:
4 to 15 inches—brownish yellow coarse sandy loam
Subsoil:
15 to 20 inches—brownish yellow sandy clay loam
20 to 26 inches—pale brown clay that has light brownish gray iron depletions and red masses of oxidized iron
26 to 35 inches—light brownish gray clay that has brownish yellow and red masses of oxidized iron
Substratum:
35 to 38 inches—light yellowish brown clay loam
Bedrock:
38 to 48 inches—weathered bedrock

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 4e

Description of the Helena Soil

Setting
Landform: Hills
Position on the landform: Shoulders and footslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 5 inches—very dark grayish brown sandy loam
Subsurface layer:
5 to 16 inches—brownish yellow sandy loam
Subsoil:
16 to 21 inches—brownish yellow sandy clay loam
21 to 28 inches—brownish yellow sandy clay that has grayish brown iron depletions and red masses of oxidized iron
28 to 35 inches—grayish brown sandy clay that has red masses of oxidized iron
35 to 60 inches—brownish yellow sandy clay loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Bush River Soil

Setting
Landform: Interfluves and hills
Position on the landform: Shoulders and backslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks

Typical Profile
Surface layer:
0 to 5 inches—brown sandy loam
Subsurface layer:
5 to 10 inches—brownish yellow coarse sandy loam
Subsoil:
10 to 16 inches—brownish yellow coarse sandy loam that has red and yellowish brown masses of oxidized iron
16 to 24 inches—brownish yellow sandy clay that has red masses of oxidized iron
24 to 36 inches—light yellowish brown sandy clay that has brownish yellow masses of oxidized iron and light brownish gray iron depletions
36 to 50 inches—brownish yellow sandy clay loam
Substratum:
50 to 60 inches—brownish yellow sandy loam

Properties and Qualities
Drainage class: Moderately well drained
Depth to water table: About 1.5 to 2.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Deep to bedrock

Interpretive Groups
Land capability class: 4e

Ro—Rock outcrop

Map Unit Composition

Rock outcrop and similar soils: About 100 percent

Description of the Rock Outcrop

This map unit consists of areas of hard, exposed granite and granite gneiss.

SgB—Sedgefield-Crawfordville complex, 2 to 6 percent slopes

Map Unit Composition

Sedgefield and similar soils: About 54 percent
Crawfordville and similar soils: About 33 percent

Minor Components

- Helena soils, which have a seasonal high water table at a depth between 1.5 and 2.5 feet and base saturation of less than 35 percent

- Mecklenburg soils, which do not have a seasonal high water table within a depth of 60 inches
- Wynott soils, which do not have a seasonal high water table within a depth of 60 inches

Description of the Sedgefield Soil

Setting
Landform: Broad hills and interfluves
Position on the landform: Summits, toeslopes, and footslopes
Slope: Gently sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 6 inches—dark grayish brown sandy loam
Subsoil:
6 to 11 inches—light olive brown sandy clay loam that has light olive brown iron depletions and brownish yellow masses of oxidized iron
11 to 22 inches—strong brown clay that has light brownish gray iron depletions and red masses of oxidized iron
22 to 36 inches—yellowish brown clay that has light brownish gray iron depletions
36 to 40 inches—brown clay loam that has grayish brown iron depletions
Substratum:
40 to 60 inches—light yellowish brown sandy loam

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

Description of the Crawfordville Soil

Setting
Landform: Broad hills and interfluves
Position on the landform: Shoulders and backslopes
Slope: Gently sloping
Parent material: Residuum weathered from dark-colored mafic rocks

Typical Profile
Surface layer:
0 to 3 inches—very dark grayish brown sandy loam
Subsurface layer:
3 to 7 inches—light yellowish brown sandy loam
Subsoil:
7 to 13 inches—brownish yellow clay that has pale brown iron depletions
13 to 35 inches—brownish yellow clay that has gray iron depletions
Substratum:
35 to 38 inches—light brownish gray clay loam
Bedrock:
38 to 40 inches—weathered bedrock

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Very slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 2e

SgD—Sedgefield-Crawfordville complex, 6 to 15 percent slopes

Map Unit Composition

Sedgefield and similar soils: About 54 percent
Crawfordville and similar soils: About 20 percent

Minor Components

- Helena soils, which have a seasonal high water table at a depth between 1.5 and 2.5 feet
- Wynott soils, which do not have a seasonal high water table within a depth of 60 inches

Description of the Sedgefield Soil

Setting
Landform: Interfluves and hills
Position on the landform: Toeslopes and footslopes
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from intermediate and mafic crystalline rocks

Typical Profile
Surface layer:
0 to 6 inches—dark grayish brown sandy loam
Subsoil:
6 to 11 inches—light olive brown sandy clay loam that has light olive brown iron depletions and brownish yellow masses of oxidized iron
11 to 22 inches—strong brown clay that has light brownish gray iron depletions and red masses of oxidized iron
22 to 36 inches—yellowish brown clay that has light brownish gray iron depletions
36 to 40 inches—brown clay loam that has grayish brown iron depletions
Substratum:
40 to 60 inches—light yellowish brown sandy loam

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Slow
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 4e

Description of the Crawfordville Soil

Setting
Landform: Hills
Position on the landform: Backslopes and shoulders
Slope: Sloping or strongly sloping
Parent material: Residuum weathered from dark-colored mafic rocks

Typical Profile
Surface layer:
0 to 3 inches—very dark grayish brown sandy loam
Subsurface layer:
3 to 7 inches—light yellowish brown sandy loam
Subsoil:
7 to 13 inches—brownish yellow clay that has gray and pale brown iron depletions
13 to 35 inches—brownish yellow clay that has gray iron depletions
Substratum:
35 to 38 inches—light brownish gray clay loam
Bedrock:
38 to 40 inches—weathered bedrock

Properties and Qualities
Drainage class: Somewhat poorly drained
Depth to water table: About 1.0 to 1.5 feet; perched
Flooding: None
Ponding: None
Permeability: Very slow
Available water capacity: Low
Depth class: Moderately deep to bedrock

Interpretive Groups
Land capability class: 4e

W—Water

Map Unit Composition

Water and similar soils: About 100 percent

Description of the Water

This map unit consists of areas of water, including ponds, lakes, and rivers. The largest mapped areas of water in, or partially in, the survey area are Lake Oconee and the Oconee River.

WeA—Wehadkee loam, 0 to 2 percent slopes, frequently flooded

Map Unit Composition

Wehadkee and similar soils: About 70 percent

Minor Components

- Chewacla soils, which have a seasonal high water table at a depth between 0.5 foot and 2.0 feet

Description of the Wehadkee Soil

Setting
Landform: Flood plains
Slope: Nearly level
Parent material: Loamy alluvium

Typical Profile
Surface layer:
0 to 3 inches—grayish brown loam
Subsoil:
3 to 12 inches—brown loam that has yellowish red and grayish brown mottles
12 to 30 inches—light gray sandy clay loam that has yellowish red and brownish yellow mottles
30 to 38 inches—light gray sandy clay loam that has strong brown mottles
Substratum:
38 to 60 inches—light bluish gray clay loam

Properties and Qualities
Drainage class: Poorly drained
Depth to water table: About 0.0 to 1.0 foot; apparent
Flooding: Frequent
Ponding: None
Permeability: Moderate
Available water capacity: Moderate
Depth class: Very deep

Interpretive Groups
Land capability class: 6w

WfB—Wickham sandy loam, 2 to 6 percent slopes

Map Unit Composition

Wickham and similar soils: About 100 percent

Description of the Wickham Soil

Setting
Landform: Stream terraces
Slope: Gently sloping
Parent material: Alluvium

Typical Profile
Surface layer:
0 to 9 inches—brown sandy loam
Subsoil:
9 to 52 inches—reddish brown sandy clay loam
Substratum:
52 to 60 inches—reddish brown sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: None
Ponding: None
Permeability: Moderate

Available water capacity: High
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

WkB—Wickham sandy loam, 2 to 6 percent slopes, rarely flooded

Map Unit Composition

Wickham and similar soils: About 100 percent

Description of the Wickham Soil

Setting
Landform: Stream terraces
Slope: Gently sloping
Parent material: Alluvium

Typical Profile
Surface layer:
0 to 7 inches—reddish brown sandy loam
Subsoil:
7 to 40 inches—reddish brown and yellowish red sandy clay loam
Substratum:
40 to 60 inches—yellowish red gravelly sandy loam

Properties and Qualities
Drainage class: Well drained
Depth to water table: More than 6 feet
Flooding: Rare
Ponding: None
Permeability: Moderate
Available water capacity: High
Depth class: Very deep

Interpretive Groups
Land capability class: 2e

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 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; forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. 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

Figure 4.—Corn growing on Lloyd gravelly loam, 2 to 6 percent slopes, moderately eroded.

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.

Crops

Current farming and agricultural land in Greene County consists of cropland, woodland, and pastureland, with the majority of the land in timber and pasture. The average farm size is 224 acres, ranging from small farms of less than 10 acres to larger tracts of 1,000 acres or more. Agricultural land covers 55,334 acres, or 21 percent of the county. Top crop products are forages, including hay, grass silage, and green chop. Corn (fig. 4) and sorghum are grown for silage and grain. Conservation tillage is used on many row crop acres, reducing stress on cultivated lands (fig. 5).

Because the majority of farming operations are livestock related (dairy, poultry, and beef cattle), nutrient management in association with animal waste is a needed

conservation practice. Additional conservation measures use a resource systems approach, such as installation of grazing systems and alternative water sources that include stream crossings, watering ramps, wells with pipeline, heavy use protection, and troughs. Implementing heavy use protection improves degraded areas, such as concentrated travel paths and areas around barns, feeders, and hay rings. Streambanks, wetlands, and similar degraded areas may benefit from fencing, streambank stabilization, critical area treatment, and riparian buffer development and management. By establishing access for livestock and treating critical areas, older ponds can be improved in order to meet today's conservation standards.

Pasture and Hayland

Dennis Chessman, grazing lands specialist, helped prepare this section.

Most of the grasslands in Greene County are used to produce livestock forage. In addition to providing food for grazing animals, grasslands can be beneficial to ecosystems. The fibrous structure of grass roots is effective in holding soil in place and thus reducing the potential for water erosion, and the vegetation intercepts raindrops that would otherwise impact the soil surface, dislodging particles and deteriorating soil structure. Warm- and cool-season grasses and forage legumes can be productive in the county.

Tall fescue and bermudagrass are the most abundant forage species in the Georgia Piedmont and therefore can be found in most of the pastures and hay fields in the county. Although both species are non-native perennials, they were growing in the southeastern United States at least as early as the mid 18th century. Common bermudagrass, as well as several improved varieties, can be seeded. Coastal bermudagrass and other hybrids, however, do not produce enough viable seed for

Figure 5.—Conservation tillage on Cecil gravelly sandy loam, 2 to 6 percent slopes, moderately eroded. This important practice reduces the hazard of erosion.

reproduction and therefore must be established vegetatively. Almost all of the growth of bermudagrass occurs between April and October. Tall fescue is a cool-season perennial grass that has two distinct periods of annual growth. Most of its growth occurs during late winter to spring, and slightly less growth occurs in fall. Although both tall fescue and bermudagrass are used for grazing and hay, most of the bermudagrass in the county is managed for hay production while tall fescue is typically used for pasture. Tall fescue is slightly less drought tolerant than bermudagrass, especially on deep, sandy soils. Tall fescue, however, is adapted to a wide range of soil moisture conditions, from upland to lowland sites, while most bermudagrass does not perform well on poorly drained soils.

Although primarily adapted to the Coastal Plain, bahiagrass is another forage that can be grown successfully in the county. Like bermudagrass, bahiagrass is a non-native, warm-season perennial. It is adapted to a wide range of soil moisture conditions, from droughty uplands to seasonally saturated bottoms. Bahiagrass performs adequately with low or moderate levels of soil fertility. Several varieties with improved agronomic characteristics are available. Primarily a pasture grass, it can be managed for hay production. Nutritive value and yield potential are generally lower than for bermudagrass. Bahiagrass pastures should be managed to utilize new vegetative growth since forage quality declines rapidly as plants age.

Native, warm-season grasses, such as switchgrass, eastern gammagrass, Indiangrass, and little bluestem, are adapted to conditions in the county and able to provide high-quality grazing in spring. These species, however, are usually established to provide wildlife habitat and are generally not used exclusively for forage production. Unlike the non-native forage grasses which are relatively tolerant of continuous grazing, these warm-season grasses must be rotationally stocked and their minimum grazing heights rigorously maintained in order to prevent stand loss. Other perennial forage species that occur somewhat less frequently in pastures in the county include two warm-season grasses, dallisgrass and carpetgrass. Two perennial clovers, white and red, may be grown in pastures in the county. Although they are technically perennial, they may act more like annuals or biennials in the Piedmont. Alfalfa is a perennial legume that provides excellent forage. Alfalfa can be grown in the county on soils where the surface layer pH can be maintained close to 7.0, the subsoil pH to a depth of about 4 feet is 5.5 or above, and the soils are well drained. Although the nutritive value of alfalfa can be excellent, alfalfa is adapted to fewer sites and requires more management than other forages commonly grown in Georgia.

An important but underutilized practice in the southeastern United States is establishing winter pasture by over-seeding dormant, warm-season perennial grasses with cool-season annuals in the fall. The relatively long growing season of the survey area in combination with proper planning can typically provide grazing for nearly the entire year. Benefits of winter pasture include reducing the expenses associated with feeding hay and providing forage nutritive value that is superior to that of warm-season grasses. Commonly used winter pasture species include rye, oats, wheat, annual ryegrass, and annual clovers, such as crimson and arrowleaf. Legumes are typically high in crude protein and can improve the overall nutritive value of the winter pasture. In addition, bacteria living in association with legume roots provide nitrogen for the plants, thus reducing the need for supplemental nitrogen fertilizer.

Weed competition can be a problem in fields where thinning of the stand or death of the forage has allowed establishment of undesirable plants. Management and environment-related factors that can contribute to poor forage growth and favorable conditions for weed establishment in pasture and hayland include decreased soil fertility, low soil pH, improper grazing or harvest management, and extended drought or other extreme weather conditions. It may be necessary to use a selective herbicide if undesirable plants become established and reach threshold population levels.

Soils in Greene County are highly weathered and naturally acidic. Periodic soil tests and applications of fertilizer and lime according to lab recommendations and yield goals help to ensure vigorous forage growth. Although tall fescue, bermudagrass, and bahiagrass are tolerant of relatively low soil pH, the efficient use of fertilizer can be improved with limestone application to soils with pH below 6.0. When other environmental conditions for growth are favorable, yields of all three species can be increased significantly with nitrogen fertilizer. Improved bermudagrass varieties in particular are highly responsive to fertilization. They can have a yield potential of 6 to 8 tons per acre when nitrogen is supplied throughout the growing season and soil moisture is not limiting. For bermudagrass, low levels of plant potassium can increase susceptibility to environmental stress, such as cold, drought, and overgrazing, and occasionally lead to stand decline or loss. This is a particular concern with improved varieties that are managed for maximum hay yield.

Proper forage harvest management includes maintaining a minimum after-harvest height and allowing adequate time for regrowth before the plants are mowed or grazed again. Excessive stocking rates can result in plants being grazed too close to the ground as well as being re-grazed before they have enough time to recover from the previous harvest. Common bermudagrass and bahiagrass should not be harvested lower than 2 inches, and improved bermudagrass varieties not lower than 3 to 4 inches. Tall fescue should not be grazed lower than 3 inches. Minimum grazing heights should be increased during periods when plants are stressed, such as during a prolonged drought. Although these species are relatively tolerant of the frequent grazing that is typically associated with continuous stocking, they perform better if stock density can be adjusted or pasture rest periods provided as plant growth rate changes throughout the season. Native grasses are much less tolerant of close and frequent harvesting. Generally, they should not be grazed lower than 6 to 8 inches, depending on species. Their recovery time after grazing is longer than that required by the non-native species. Rotational stocking with several paddocks is essential to maintain vigorous, long-term, native, warm-season grasslands. The time necessary for regrowth of any species is influenced by soil moisture, soil fertility, temperature, and harvest height.

Yields per Acre

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

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

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

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

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

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

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

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

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA-SCS, 1961).

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 aesthetic 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 table 5.

Prime Farmland and Other Important Farmlands

Table 6 lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

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

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

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

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

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

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops

when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Hydric Soils

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

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

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

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

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

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the

depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

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

The following map unit meets the definition of hydric soils and, in addition, has at least one of the hydric soil indicators. This information 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).

WeA Wehadkee 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.

ChA Chewacla silt loam, 0 to 2 percent slopes, frequently flooded
COA Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded

Forestland Productivity and Management

Michael Sampson, state forester, Natural Resources Conservation Service, helped prepare this section.

Of the 259,900 acres in Greene County, 205,112 acres, or about 79 percent of the county is forestland. For the purpose of forest inventory, the predominant forest types in the county have been identified: loblolly and shortleaf pine, oak-hickory, oak-pine, oak-gum/cypress, and elm-ash-cottonwood (USDA Forest Service, 2011). They are described below.

There are 66,303 acres of natural loblolly pine and shortleaf pine stands in the county. Stands of loblolly pine and shortleaf pine that have been artificially regenerated cover 55,869 acres. Both natural and artificial forest stands of loblolly pine and shortleaf pine total 122,172 acres, comprising the largest forest group in the county. Acres of the loblolly and shortleaf pine group compose 60 percent of the county's forested acres.

The oak-hickory group consists of 38,784 acres of natural stands, making it the second largest forest group in the county. This group makes up 19 percent of the county's forested acres.

The oak-pine group consists of 24,153 acres of natural stands, making it the third largest forest group in the county. Forest stands that have been artificially regenerated cover 1,473 acres. The oak-pine group accounts for 12 percent of the forested acres in the county.

The oak-gum/cypress group consists of 8,836 acres of natural forested stands. It makes up 4.3 percent of the forested acres in the county.

The elm-ash-cottonwood group consists of 7,364 acres of natural forested stands. This is the smallest group in the county, accounting for 4 percent of the county's forested land.

The loblolly and shortleaf pine group is the largest group of timber species in the county. Loblolly pine and shortleaf pine traditionally grow fast, are adapted to the soils and climate, bring the highest average sale value per acre, and are relatively easy to establish and manage. With proper site preparation, slash pine can also be easily grown across the county, depending on soil types.

Much of the existing commercial forest in the county would benefit if stands were improved by weeding out undesirable species. Continued protection from grazing and uncontrolled fire and control of diseases and insects are also needed to improve forested stands. The level of forest management has improved significantly during recent years. Prescribed burning is a management practice used to maintain wildlife habitat, decrease fuel loading that can lead to uncontrolled fire, and control unwanted species. Additional forest management practices include genetically improved seedlings, natural regeneration, herbaceous weed control, and fertilization (USDA Forest Service, 2001).

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 7, 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

Interpretive ratings for various aspects of forestland management are given in table 8, parts I through III. 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 table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

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.

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 *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.

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.

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.

Recreational Development

In table 9, parts I and II, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

The ratings in the table are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered.

Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in this table can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, saturated hydraulic conductivity (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity, 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 (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity, 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 (K_{sat}), and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, saturated hydraulic conductivity, 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.

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.

Wildlife Habitat

Keith Wooster, state biologist, helped prepare this section.

Soils affect the kind and amount of vegetation available to wildlife as food and cover. The diversity and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, maintaining existing plant cover, or promoting natural establishment of desirable plants.

The soils in Greene County and most of the Piedmont are primarily Ultisols which are highly weathered and have a red to yellowish red clayey subsoil. Native plants adapted to these areas have low nutrient requirements and recover the limited nutrients through litter decomposition. These soils can support a diversity of wildlife habitat to sustain many wildlife species. Knowledge of soil types and the associated plant communities they support is valuable in managing wildlife habitat. Generally, wildlife species occupy areas that are most suitable for their food, water, and cover requirements. Understanding soil-vegetation relationships is important in creating and maintaining productive areas of wildlife habitat. Soil surveys can be used in management programs, such as habitat improvement, species reintroduction, and creation of wildlife refuges. Wildlife habitat needs should be considered in decisions involving land use and management.

About 79 percent of the acreage in Greene County is forested, 13 percent of which is federally owned (Oconee National Forest). Just over 5 percent of the total land use is for row crops, and 6 percent for pasture. The forestland is composed of 12 percent oak-pine, 19 percent oak-hickory, and 60 percent loblolly and shortleaf pine. The hard mast potential is fair to good: 17 percent of the oak-hickory component is more than 60 years old and 46 percent of the oak-pine component is more than 80 years old.

Cropland and pastureland are interspersed within the pine and hardwood forests. Very deep, well drained upland soils, such as Cecil, Lloyd, Georgeville, and Pacolet, are important for forestland, cropland, and pasture. These soils support many native plants that are important to wildlife. Unmanaged pastures and old fields that have a high component of native grasses/forbs and shrubs provide food and cover for white-tailed deer, turkey, rabbit, fox, songbirds, and other wildlife species. Old fields that have a high component of introduced grasses provide a much lower habitat quality. The major native tree species that provide wildlife food and cover include southern red oak (*Quercus falcata*), white oak (*Quercus alba*), post oak (*Quercus stellata*), scarlet oak (*Quercus coccinea*), and blackgum (*Nyssa sylvatica*). Young pine plantations and thinned stands of pines and hardwoods are important areas that support numerous woody and herbaceous plants, which provide food and cover for wildlife. Important “ground cover” plants include greenbrier (*Smilax* spp.), lespedeza (*Lespedeza* spp.), beautyberry (*Callicarpa Americana*), strawberry bush (*Euonymus Americana*), ragweed (Ambrosia spp.), partridge pea (Chamaecrista fasciculata), and sumac (Rhus spp.). Domestic plants important to wildlife include clover, soybeans, and small grains.

In the bottom lands, large stands of mixed hardwoods, including southern red oak (*Quercus falcata*), hickory (*Carya* spp.), red maple (*Acer rubrum*), and tulip poplar (*Liriodendron tulipfera*), grow well on Chewacla and Congaree soils. These areas make up about 23,400 acres, or 9 percent of Greene County. They support species

such as gray squirrel, turkey, white-tailed deer, raccoon, beaver, and, in open water habitats, waterfowl. Wetland areas of Wehadkee soils provide important habitat for waterfowl and a variety of furbearers, including otter, beaver, muskrat, and raccoon. Blackgum (*Nyss sylvatica*), green ash (*Fraxinus pennsylvanica*), alder (*Alnus serrulata*), and a variety of herbaceous plants are some of the plants important for wildlife in these areas. Wehadkee soils occur on about 1,850 acres, or about 1 percent of the county.

Rock outcrops cover less than 0.1 percent of the county. Although relatively small in acreage, these areas provide specialized habitat for some of Georgia's rare plants.

Wildlife habitat can be improved and enhanced by restoring field hedgerows and field borders adjacent to crop fields and creating or protecting the forested stream buffers from overgrazing. The ability of pine plantations to support wildlife can be improved by thinning to basal areas that allow 35 to 50 percent sunlight to the forest floor at high noon. This allows for the development of browse and fruit-bearing trees and shrubs. Once these areas are thinned, habitat can be maintained with prescribed fire on a 3- to 5-year burn rotation. Soils with higher natural fertility have a quicker vegetative response to prescribed fire. Prescribed burning in pine stands that have a hardwood component may result in hardwood damage. The damage depends on the age of hardwoods, drought conditions, and tree species. In general, oaks, especially post oak and white oak, are more fire resistant than other hardwoods. An alternative to the use of prescribed fire is to retain hard mast-producing clumps of trees that are protected from prescribed fire. If the use of prescribed fire is planned for these clumps, a much longer fire rotation is recommended.

Greene County includes almost 11,000 acres of Lake Oconee, which was originally flooded in 1980. This area provides excellent fishing as well as shallow areas for wading birds. The county also has many small ponds and several miles of streams. Because of the fragile habitat requirements of fish, special efforts are needed to restrict both point and non-point sources of water pollution. Good soil management practices for all types of land use are a primary consideration for controlling pollution in streams.

Soil fertility affects the kind and amount of vegetation that is available to wildlife as food and cover. The kind and abundance of wildlife depend largely on the amount and distribution of food and cover. Wildlife habitat can be improved by promoting the establishment of desirable plants and by diversifying and enhancing the existing native plant cover and providing well managed food plots. Food plots can supplement and improve the habitat for many species, especially deer and turkey. Quality food plots can provide more than 10 times the amount of digestible energy and protein available in recently regenerated forests or within properly managed mature forests. Managing 5 to 20 percent of the area as openings can provide both cool- and warm-season foods. Also, the placement of openings based on soil capability is very important. Where possible, openings should be constructed on the most fertile soils. Food plots should be placed on land that has the best land capability class (LCC), usually 2e or 3e. As the LCC increases, the limitations also increase, thus reducing the probability of having a successful food plot.

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 (K_{sat}), corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Table 10, parts I and II show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

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

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

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.

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.

Sanitary Facilities

Table 11 shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by

special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 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 (K_{sat}), 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 (K_{sat}), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (K_{sat}) 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 K_{sat} 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.

Construction Materials

Table 12 gives information about the soils as potential sources of sand, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand consists of natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 12, 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 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, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand. 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. 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 12, the rating class terms are *good, fair,* and *poor* as potential sources for roadfill and topsoil. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of roadfill and topsoil. The lower the number, the greater the limitation.

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 13 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 and for embankments, dikes, and levees. 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 (K_{sat}) 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.

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 14 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 and Chemical Soil Properties

Table 15 shows estimates of some physical and 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.

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. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 15, 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 amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the

field, particularly soil structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

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.

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 (K_{sat}). 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.

Soil Features

Table 16 gives estimates of some soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

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.

Water Features

Table 17 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.

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*) of the saturated zone in most years. Estimates of the upper limit 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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2006). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. 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 Ultisol.

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 Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

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, semiactive, thermic Typic Hapludults.

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.

Table 18 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, 2006). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Altavista Series

Landform: Stream terraces
Parent material: Loamy alluvium
Drainage class: Moderately well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 2 to 6 percent
Taxonomic classification: Fine-loamy, mixed, semiactive, thermic Aquic Hapludults

Geographically Associated Soils

- Chewacla soils, which are somewhat poorly drained and on adjacent flood plains
- Congaree soils, which are well drained and on adjacent flood plains
- Wickham soils, which are well drained and in the slightly higher landscape positions

Typical Pedon

Altavista sandy loam, 2 to 6 percent slopes, rarely flooded; Greene County, Georgia; 0.5 mile from the intersection of Duvall Circle and Duvall Road on Reid Duvall Road, about 0.2 mile west of the road, in a pasture; Buckhead, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 37 minutes 25 seconds N. and long. 83 degrees 20 minutes 55 seconds W.

A—0 to 7 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and many very fine roots; moderately acid; abrupt smooth boundary.

Bt1—7 to 24 inches; yellowish brown (10YR 5/4) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, nonplastic; common fine roots; few clay films; moderately acid; clear wavy boundary.

Bt2—24 to 43 inches; pale yellow (2.5Y 7/4) sandy clay loam; weak medium subangular blocky structure; firm, slightly sticky, nonplastic; few clay films; many fine brownish yellow (10YR 6/8) and few fine yellowish brown (10YR 5/8) masses of oxidized iron; few fine light gray (10YR 7/1) iron depletions; 2 percent stones; moderately acid; clear wavy boundary.

BC—43 to 60 inches; mottled 70 percent brownish yellow (10YR 6/8) and 30 percent light gray (10YR 7/1) sandy loam; weak medium subangular blocky structure; friable, slightly sticky, nonplastic; few fine yellowish red (5YR 4/6) masses of oxidized iron; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to more than 60 inches
Depth to bedrock: More than 60 inches

Content of rock fragments: 0 to 5 percent gravel in the A and B horizons and 0 to 35 percent in the C horizon
Content of mica flakes: Few or common in the B and C horizons of most pedons
Reaction: Extremely acid to moderately acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture—fine sandy loam, sandy loam, or loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—fine sandy loam, sandy loam, or loam

BE horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—fine sandy loam, sandy loam, loam, or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—loam, clay loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of olive or gray and masses of oxidized iron in shades of brown, yellow, or red; iron depletions occur within the upper 24 inches of horizon

Btg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 5 to 7, and has chroma of 1 or 2
Texture—loam, clay loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of olive or gray and masses of oxidized iron in shades of brown, yellow, or red

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 3 to 8
Texture—sandy loam, loam, sandy clay loam, fine sandy loam, loamy fine sand, or loamy sand
Redoximorphic features—iron depletions in shades of olive or gray and masses of oxidized iron in shades of brown, yellow, or red

C horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam in the fine-earth fraction
Redoximorphic features—iron depletions in shades of olive or gray and masses of oxidized iron in shades of brown, yellow, or red

Cg horizon (if it occurs):
Color—horizon is neutral in hue or has hue of 7.5YR to 2.5Y, has value of 4 to 7, and has chroma of 1 or 2
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam
Redoximorphic features—iron depletions in shades of olive or gray and masses of oxidized iron in shades of brown, yellow, or red

Appling Series

Landform: Hills
Parent material: Residuum weathered from felsic igneous and metamorphic rocks
Drainage class: Well drained
Permeability class: Moderate

Depth class: Very deep
Slope range: 2 to 10 percent
Taxonomic classification: Fine, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

- Cataula and Hard Labor soils, which are moderately well drained
- Cecil, Lloyd, and Pacolet soils, which have a redder subsoil

Typical Pedon

Appling gravelly sandy loam in an area of Hard Labor-Appling complex, 2 to 6 percent slopes; Taliaferro County, Georgia; 0.4 mile southeast of the town of Sharon on Davidson Avenue, 250 feet northeast of the road; Sharon, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 33 minutes 24 seconds N. and long. 82 degrees 47 minutes 17 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) gravelly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine, many very fine, and many medium roots; 15 percent gravel; strongly acid; clear smooth boundary.
E—3 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine, common medium, and common very fine roots; 18 percent gravel; strongly acid; clear wavy boundary.
Bt1—16 to 26 inches; yellowish red (5YR 5/8) sandy clay; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine and few medium roots; few clay films; 5 percent stones; strongly acid; gradual wavy boundary.
Bt2—26 to 34 inches; yellowish red (5YR 5/6) sandy clay; common medium yellowish brown (10YR 5/4), common fine yellowish brown (10YR 5/6), and common fine yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; few clay films; 10 percent stones; very strongly acid; gradual wavy boundary.
Bt3—34 to 40 inches; variegated 70 percent yellowish brown (10YR 5/4) and 30 percent red (2.5YR 4/8) sandy clay; common medium yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable, slightly sticky, moderately plastic; few clay films; very strongly acid; gradual wavy boundary.
BC—40 to 48 inches; red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; very strongly acid; gradual wavy boundary.
C—48 to 60 inches; 50 percent yellowish brown (10YR 5/4), 25 percent yellowish brown (10YR 5/8), and 25 percent yellowish brown (5YR 4/8) coarse sandy loam; massive; very friable, nonsticky, nonplastic; very strongly acid.

Range in Characteristics

Thickness of the solum: At least 24 to 50 inches; solum extends to a depth of 40 inches or more
Depth to bedrock: 6 to 10 feet or more
Content of mica flakes: Few or common in the A and Bt horizons and few to many in the BC and C horizons of most pedons
Content rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 10 percent in the Bt horizons
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—sandy loam, fine sandy loam, coarse sandy loam, loamy sand, or loamy coarse sand in the fine-earth fraction

E horizon:
Color—hue of 5YR to 2.5Y and value and chroma of 4 to 6
Texture—sandy loam, fine sandy loam, coarse sandy loam, loamy sand, or loamy coarse sand in the fine-earth fraction

BA or BE horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 3 to 8
Texture—sandy clay loam or sandy loam

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8; in pedons where hue is 5YR, there are evident patterns of mottling in a subhorizon of the Bt horizon
Mottles—in shades of red, yellow, and brown; few to many throughout most pedons
Texture—sandy clay, clay loam, or clay

BC horizon:
Color—horizon has hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8 or is mottled in these colors; where hue is 5YR, there are evident patterns of mottling
Texture—sandy clay loam, clay loam, or sandy clay

C horizon:
Color—horizon has hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8 or is mottled in these colors
Texture—saprolite that crushes to loamy textures

Bush River Series

Landform: Hills
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks
Drainage class: Moderately well drained
Permeability class: Slow
Depth class: Deep
Slope range: 6 to 15 percent
Taxonomic classification: Fine, mixed, semiactive, thermic Aquic Hapludults

Geographically Associated Soils

- Cataula and Hard Labor soils, which have kaolinitic mineralogy and do not have a paralithic contact within a depth of 60 inches
- Cecil, Appling, and Pacolet soils, which are well drained and have kaolinitic mineralogy
- Helena soils, which do not have a paralithic contact within a depth of 60 inches
- Prosperity soils, which have a paralithic contact at a depth between 20 and 40 inches

Typical Pedon

Bush River sandy loam in an area of Prosperity-Helena-Bush River complex, 6 to 15 percent slopes; Greene County, Georgia; 1.5 miles south-southwest of the intersection of Liberty Church Road and Walker's Church Road in a pasture, 880 feet west of Walker's Church Road; Liberty, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 31 minutes 43 seconds N. and long. 83 degrees 10 minutes 36 seconds W.

A—0 to 5 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; many fine and common medium roots; moderately acid; clear smooth boundary.

E—5 to 10 inches; brownish yellow (10YR 6/6) coarse sandy loam; weak fine granular structure; many fine and common medium roots; moderately acid; clear smooth boundary.
BE—10 to 16 inches; brownish yellow (10YR 6/6) coarse sandy loam; weak fine subangular blocky structure parting to weak fine granular; few fine and few medium roots; common medium faint yellowish brown (10YR 5/6) and common fine prominent red (2.5YR 4/6) masses of oxidized iron; moderately acid; gradual wavy boundary.
Bt1—16 to 24 inches; brownish yellow (10YR 6/6) sandy clay; moderate medium subangular blocky structure; common fine prominent red (2.5YR 4/6) masses of oxidized iron; moderately acid; gradual wavy boundary.
Bt2—24 to 36 inches; light yellowish brown (10YR 6/4) sandy clay; moderate medium subangular blocky structure; very few clay films on all faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions; common medium faint brownish yellow (10YR 6/6) masses of oxidized iron; strongly acid; gradual wavy boundary.
BC—36 to 50 inches; variegated 60 percent brownish yellow (10YR 6/6) and 40 percent very pale brown (10YR 8/2) sandy clay loam; weak medium subangular blocky structure; strongly acid; gradual wavy boundary.
C—50 to 55 inches; variegated 60 percent brownish yellow (10YR 6/6) and 40 percent very pale brown (10YR 8/2) sandy loam; massive; strongly acid; gradual wavy boundary.
Cr—55 to 60 inches; weathered bedrock.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to soft bedrock: 40 to 60 inches
Depth to hard bedrock: More than 60 inches
Content of rock fragments: 0 to 15 percent, by volume, rounded and subrounded quartz and pararock fragments throughout the solum
Reaction: Very strongly acid to moderately acid throughout the profile, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—sandy loam, loam, or fine sandy loam in the fine-earth fraction

E horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture—coarse sandy loam, loamy sand, or sandy loam in the fine-earth fraction

BE horizon or BEt horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay loam, coarse sandy loam, or clay loam in the fine-earth fraction

Bt horizon:
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; hue of 5YR and mottled colors are mostly confined to lower Bt subhorizons
Texture—clay, sandy clay, clay loam, or sandy clay loam in the fine-earth fraction; sandy clay loam occurs only in thin subhorizons
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of gray or yellow

Btg horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay, sandy clay, or clay loam in the fine-earth fraction

Redoximorphic features—iron masses in shades of red, yellow, or brown; in most pedons

BC horizon or BCt horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8; hue of 5YR and mottled colors are confined to the lower subhorizons
Texture—clay loam, sandy clay loam, or sandy loam in the fine-earth fraction
Redoximorphic features—iron masses in shades of red, yellow, or brown and iron depletions in shades of gray or yellow

BCg horizon (if it occurs):
Color—hue of 10YR, value of 6 or 7, and chroma of 1
Texture—clay loam, sandy clay loam, or sandy loam in the fine-earth fraction
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown; in most pedons

C horizon or Ct horizon (if it occurs):
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Mottles (if they occur)—lithochromic mottles in shades of red, yellow, brown, gray, or white
Texture—sandy loam, fine sandy loam, sandy clay loam, or loam in the fine-earth fraction; seams of clay or clay loam occur in some pedons

Cr or Crt horizon (if it occurs):
Type of bedrock—weathered bedrock

Cataula Series

Landform: Hills
Parent material: Residuum weathered from igneous and metamorphic rock
Drainage class: Moderately well drained
Permeability class: Slow
Depth class: Very deep
Slope range: 6 to 25 percent
Taxonomic classification: Fine, kaolinitic, thermic Oxyaquic Kanhapludults

Geographically Associated Soils

- Cecil, Appling, Lloyd, and Pacolet soils, which are well drained and do not have a horizon that is dense and brittle
- Hard Labor soils, which have dominant hue of 7.5YR or yellower
- Helena soils, which have mixed mineralogy, have a seasonal high water table between a depth of 18 and 30 inches, and do not have a horizon that is dense and brittle

Typical Pedon

Cataula sandy loam in an area of Cataula-Cecil complex, 6 to 15 percent slopes, moderately eroded (fig. 6); Hancock County, Georgia; 0.5 mile north of the intersection of Georgia Highway 16 and Green Spring Road, 0.4 mile southeast of Green Spring cemetery; Shoulderbone, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 20 minutes 46 seconds N. and long. 83 degrees 6 minutes 24 seconds W.

A—0 to 3 inches; reddish brown (5YR 4/3) sandy loam; weak medium subangular blocky structure parting to moderate fine granular; very friable, slightly sticky, slightly plastic; many fine, many medium, many coarse, and many very fine roots; strongly acid; abrupt smooth boundary.
BA—3 to 7 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; very friable, moderately sticky, moderately plastic; common fine,

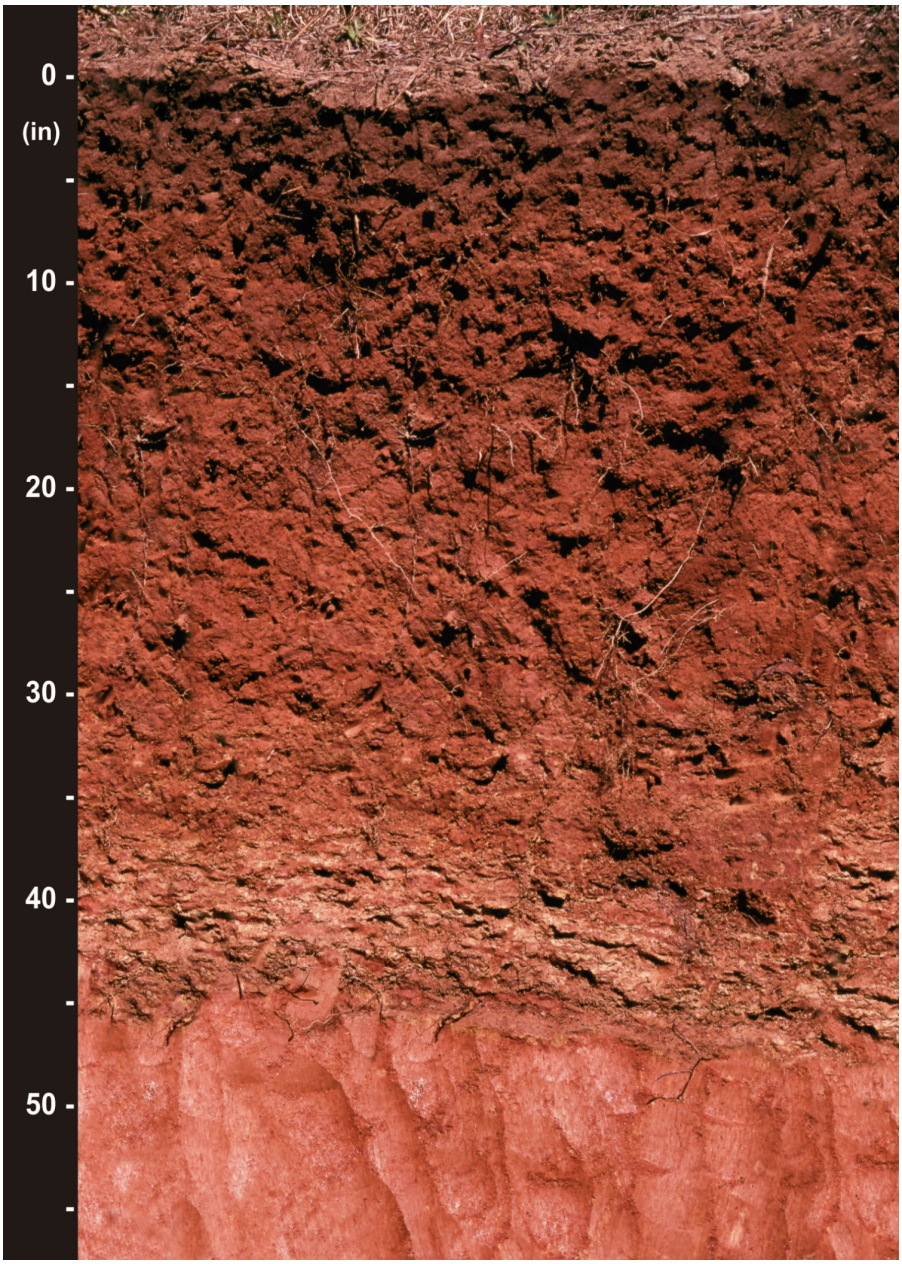

Figure 6.—Typical profile of a Cataula soil. The Cataula soils have a perched water table typically at a depth of 30 to 40 inches (gray iron depletions are visible in the photo). The restrictive layer has platy structure and is firm and brittle.

common medium, common coarse, and common very fine roots; very strongly acid; clear wavy boundary.

Bt—7 to 17 inches; red (10R 4/6) clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine, common medium, common coarse, and common very fine roots; weak red (10R 4/4) clay films; 1 percent stones; very strongly acid; clear wavy boundary.

Btx1—17 to 31 inches; red (2.5YR 4/6) clay loam; weak medium angular blocky structure parting to moderate very thin platy; firm, slightly sticky, slightly plastic; brittle; few fine medium coarse and very fine roots; weak red (10R 4/4) clay films;

few fine light brown (7.5YR 6/4) masses of oxidized iron; few fine mica flakes; very strongly acid; abrupt wavy boundary.

Btx2—31 to 47 inches; red (2.5YR 4/8) sandy clay loam; moderate very thick platy structure; firm, slightly sticky, slightly plastic; few fine, few medium, and few very fine roots; weak red (10R 4/4) clay films on top faces of peds; common medium dark red (10R 3/6) masses of oxidized iron; common medium very pale brown (10YR 7/4) and common medium light gray (10YR 7/2) iron depletions; common fine mica flakes; very strongly acid; abrupt wavy boundary.

C—47 to 72 inches; red (2.5YR 5/8) sandy loam saprolite; massive; firm, slightly sticky, slightly plastic; few fine white (7.5YR 8/1) clay bodies throughout; common fine mica flakes; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches

Depth to bedrock: More than 60 inches; depth to the dense, partially brittle layer ranges from 15 to 40 inches

Content of rock fragments: 0 to 7 percent, by volume, throughout the profile

Reaction: Very strongly acid to moderately acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):

Color—hue of 5YR to 10YR and value and chroma of 3 to 6

Texture—loamy sand, fine sandy loam, or sandy loam

BA horizon or BE horizon (if it occurs):

Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8

Texture—fine sandy loam, sandy loam, clay loam, or sandy clay loam

Bt horizon:

Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 6 or 8; hue of the lower Bt horizon may range to 7.5YR or 10YR with value of 3

Texture—clay loam, sandy clay, or clay

Btx horizon:

Color for red layers—hue of 10R to 5YR, value of 3 to 5, and chroma of 6 or 8

Color for brown layers—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 8

Texture—sandy clay loam, clay loam, sandy clay, or clay

Redoximorphic features—masses of oxidized iron in shades of red, brown, and yellow; iron depletions in shades of gray

BC horizon (if it occurs):

Color—hue of 10R to 5YR and value and chroma of 4 to 8

Texture—fine sandy loam, sandy loam, loam, sandy clay loam, clay loam, or sandy clay

C horizon:

Color—multicolored in shades of yellow, red, and brown

Texture—saprolite that crushes to sandy loam, loam, sandy clay loam, or clay loam

Cecil Series

Landform: Hills

Parent material: Residuum weathered from felsic igneous and high-grade metamorphic rocks

Drainage class: Well drained

Permeability class: Moderate

Depth class: Very deep
Slope range: 2 to 25 percent
Taxonomic classification: Fine, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

- Appling soils, which have an argillic horizon with hue of 5YR or yellower
- Cataula and Hard Labor soils, which are moderately well drained
- Lloyd soils, which have an argillic horizon with rhodic colors
- Pacolet soils, which have thinner argillic horizons

Typical Pedon

Cecil gravelly sandy loam, 2 to 6 percent slopes, moderately eroded; Hancock County, Georgia; 3 miles south of the Greene-Hancock County line on Georgia Highway 15, about 2,900 feet west of the highway, in woods; White Plains, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 24 minutes 14 seconds N. and long. 83 degrees 2 minutes 52 seconds W.

A—0 to 3 inches; brown (7.5YR 4/4) gravelly sandy loam; moderate fine granular structure; very friable, slightly sticky, slightly plastic; many fine, many medium, many very fine, and few coarse roots; 25 percent gravel; moderately acid; abrupt wavy boundary.

BA—3 to 7 inches; reddish brown (5YR 5/4) gravelly sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; many fine, many medium, many very fine, and few coarse roots; 20 percent gravel; moderately acid; clear wavy boundary.

Bt1—7 to 32 inches; red (10R 4/6) clay; strong coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common fine, common very fine, few medium, and few coarse roots; many fine reddish brown (2.5YR 4/4) clay films; 5 percent gravel; strongly acid; clear wavy boundary.

Bt2—32 to 56 inches; red (10R 4/6) clay; many medium prominent reddish yellow (7.5YR 7/6) mottles; weak coarse subangular blocky structure parting to moderate fine angular blocky; friable, slightly sticky, moderately plastic; few fine and few very fine roots; common fine reddish brown (2.5YR 4/4) clay films; 1 percent gravel; strongly acid; gradual wavy boundary.

BC—56 to 72 inches; red (2.5YR 5/6) clay loam; weak coarse subangular blocky structure; very friable, slightly sticky, slightly plastic; strongly acid.

Range in Characteristics

Thickness of the solum: At least 24 to 50 inches; solum extends to a depth of 40 inches or more
Depth to bedrock: 6 to more than 10 feet
Content of mica flakes: Few or common in the Bt horizon and few to many in the BC and C horizons in most pedons
Content of rock fragments: 0 to 35 percent, by volume, in the A horizon and 0 to 10 percent in the Bt and BC horizons
Reaction: Very strongly acid or strongly acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, or loam in the fine-earth fraction; including sandy clay loam or clay loam in eroded areas

E horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam

BA horizon or BE horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sandy clay loam, loam, or clay loam

Bt horizon:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8; hue also ranges to 5YR if there are no evident patterns of mottling
Texture—clay, clay loam, or sandy clay

BC horizon:
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, or loam

C horizon:
Color—multicolored in shades of red, brown, and yellow
Texture—saprolite that crushes to sandy loam

Chewacla Series

Landform: Flood plains
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts

Geographically Associated Soils

- Congaree soils, which are well drained or moderately well drained
- Wehadkee soils, which are poorly drained or very poorly drained
- Altavista soils, which are moderately well drained and on adjacent stream terraces

Typical Pedon

Chewacla silt loam, 0 to 2 percent slopes, frequently flooded; Taliaferro County, Georgia; 125 feet north-northeast of the junction of Oglethorpe, Taliaferro, and Greene Counties, 100 feet south-southwest of a logging road on a forested flood plain; Philomath, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 41 minutes 40 seconds N. and long. 82 degrees 59 minutes 43 seconds W.

A—0 to 6 inches; brown (10YR 4/3) silt loam; weak medium granular structure; very friable, slightly sticky, moderately plastic; common fine, common very fine, and few medium roots; moderately acid; clear smooth boundary.

Bw1—6 to 24 inches; light yellowish brown (10YR 6/4) silt loam; moderate fine subangular blocky structure; very friable, slightly sticky, moderately plastic; common fine, common very fine, common medium, and few coarse roots; few fine flakes of mica; common medium prominent yellowish red (5YR 4/6) masses of oxidized iron; few medium prominent light gray (10YR 7/2) iron depletions; many prominent manganese nodules throughout; moderately acid; abrupt smooth boundary.

Bw2—24 to 31 inches; reddish brown (5YR 4/4) sandy loam; weak fine subangular blocky structure; very friable, slightly sticky, nonplastic; few fine, few medium, and few very fine roots; common fine flakes of mica; many fine prominent manganese nodules throughout; moderately acid; abrupt smooth boundary.

Bg1—31 to 44 inches; variegated 50 percent brown (10YR 4/3) and 50 percent gray (2.5Y 6/1) silty clay loam; weak coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and few very fine roots; common

medium prominent brownish yellow (10YR 6/6), common fine prominent strong brown (7.5YR 5/8), and common medium prominent yellowish red (5YR 5/6) masses of oxidized iron; common fine prominent manganese nodules throughout; moderately acid; clear smooth boundary.

Bg2—44 to 60 inches; gray (2.5Y 6/1) clay loam; weak very thick platy structure; friable, moderately sticky, moderately plastic; moderately acid.

Range in Characteristics

Depth to bedrock: More than 80 inches

Content of rock fragments: 0 to 5 percent, by volume, in the A and upper B horizons and 0 to 15 percent in the lower B horizons

Content of mica flakes: Few to many throughout the profile

Reaction: Very strongly acid to slightly acid to a depth of 40 inches, except where lime has been applied; very strongly acid to mildly alkaline below a depth of 40 inches

A horizon or Ap horizon (if it occurs):

Color—hue of 5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 6

Texture—sandy loam, fine sandy loam, loam, silt loam, silty clay loam, or clay loam

Bw horizon:

Color—horizon has hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8 or is variegated in shades of these colors

Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Bg horizon:

Color—horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral in hue and has value of 4 to 8

Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

BC horizon (if it occurs):

Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

BCg horizon (if it occurs):

Color—horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral in hue and has value of 4 to 8

Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

C horizon (if it occurs):

Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Cg horizon (if it occurs):
Color—horizon has hue of 10YR or 2.5Y or is neutral in hue, has value of 4 to 7, and has chroma of 1 to 2
Texture—sandy clay loam, sandy loam, fine sandy loam, loam, clay loam, silt loam, or silty clay loam
Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of brown, yellow, olive, or gray

Congaree Series

Landform: Flood plains
Parent material: Loamy alluvium
Drainage class: Well drained or moderately well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, nonacid, thermic Oxyaquic Udifluvents

Geographically Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Wehadkee soils, which are poorly drained or very poorly drained
- Altavista soils, which occur on adjacent stream terraces

Typical Pedon

Congaree sandy loam in an area of Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded; Greene County, Georgia; 0.6 mile south of the intersection of Randolph Church Road and Bethesda Church Road, 220 feet east of Bethesda Church Road; Philomath, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 39 minutes 25 seconds N. and long. 82 degrees 59 minutes 20 seconds W.

A—0 to 4 inches; yellowish brown (10YR 5/4) sandy loam; weak fine granular structure; very friable, slightly sticky, nonplastic; many fine and many medium roots; moderately acid; abrupt smooth boundary.
C1—4 to 18 inches; yellowish red (5YR 4/6) sandy loam; massive; very friable, nonsticky, nonplastic; many fine and many medium roots; few fine flakes of mica; moderately acid; abrupt smooth boundary.
C2—18 to 34 inches; dark reddish brown (5YR 3/4) sandy clay loam; massive; very friable, nonsticky, nonplastic; many fine and many medium roots; few fine flakes of mica; moderately acid; abrupt smooth boundary.
C3—34 to 41 inches; reddish brown (5YR 4/4) sandy loam; massive; very friable, nonsticky, nonplastic; few medium roots; moderately acid; abrupt smooth boundary.
C4—41 to 60 inches; reddish brown clay loam; massive; very friable, slightly sticky, slightly plastic; strongly acid.

Range in Characteristics

Depth to bedrock: More than 10 feet
Content of mica flakes: Few to many throughout the profile
Content of rock fragments: 0 to 2 percent, by volume, gravel
Reaction: Dominantly very strongly acid to neutral throughout the profile; some part of the control section has pH of 5.5 or higher

A horizon:
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 2 to 6
Texture—loam, silt loam, sandy loam, or fine sandy loam

C horizon:
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 6; hue may range to 2.5Y in the lower subhorizons
Texture—silty clay loam, sandy clay loam, sandy loam, fine sandy loam, or loam; may range from loamy sand to silty clay below a depth of 40 inches
Redoximorphic features (if they occur)—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red or brown

Crawfordville Series

Landform: Hills
Parent material: Residuum weathered from mafic rocks
Drainage class: Somewhat poorly drained
Permeability class: Very slow
Depth class: Moderately deep
Slope range: 6 to 15 percent
Taxonomic classification: Fine, mixed, active, thermic Albaquultic Hapludalfs

Geographically Associated Soils

- Cataula and Hard Labor soils, which are moderately well drained and do not have a paralithic contact within a depth of 60 inches
- Mecklenburg soils which are well drained, have hue of 2.5YR or 5YR in the subsoil, and do not have a paralithic contact within a depth of 60 inches
- Prosperity soils, which are moderately well drained
- Sedgefield soils, which do not have a paralithic contact within a depth of 60 inches

Typical Pedon

Crawfordville sandy loam in an area of Crawfordville-Sedgefield complex, 6 to 15 percent slopes; Taliaferro County, Georgia; 3.4 miles northwest of the town of Crawfordville on Georgia Highway 22, about 950 feet east of the highway; Crawfordville, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 35 minutes 58 seconds N. and long. 82 degrees 55 minutes 18 seconds W.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) sandy loam; moderate fine granular structure; very friable, nonsticky, nonplastic; many fine roots; moderately acid; clear smooth boundary.
E—3 to 7 inches; light yellowish brown (2.5Y 6/3) sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; common fine roots; moderately acid; clear smooth boundary.
Bt—7 to 13 inches; brownish yellow (10YR 6/6) clay; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; many medium masses of oxidized iron; few medium pale brown (10YR 6/3) iron depletions; slightly acid; gradual wavy boundary.
Btss—13 to 35 inches; brownish yellow (10YR 6/6) clay; moderate coarse subangular blocky structure; very firm, very sticky, very plastic; very few slickensides (pedogenic) on vertical faces of peds and common light gray (10YR 7/1) clay films on surfaces along root channels; common medium gray (10YR 6/1) iron depletions; slightly acid; clear wavy boundary.
Cg—35 to 38 inches; variegated 55 percent light brownish gray (10YR 6/2), 30 percent light yellowish brown (10YR 6/4), and 15 percent brownish yellow (10YR 6/8)

gravelly clay loam; massive; 20 percent gravel; moderately acid; abrupt wavy boundary.

Cr—38 to 40 inches; variegated yellow (10YR 7/6), very pale brown (10YR 8/2), and light yellowish brown (2.5Y 6/3) weathered saprolite that crushes to sandy loam; strongly acid.

Range in Characteristics

Solum thickness: 20 to 40 inches

Depth to soft bedrock: 20 to 40 inches

Depth to hard bedrock: 40 to more than 60 inches

Content and size of rock fragments: 0 to 20 percent, by volume, in the A, Ap, and E horizons and 0 to 30 percent in the Bt and C horizons; mostly angular quartz and subangular dark-colored mafic gravel and cobbles; dark-colored mafic stones are on the surface in some areas

Reaction: Very strongly acid to moderately acid in the A and E horizons, strongly acid to slightly acid in the Bt horizon, and moderately acid to neutral in the Btss and Cg horizons

A horizon or Ap horizon (if it occurs):

Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3

Texture—loamy sand, loamy coarse sand, sandy loam, or coarse sandy loam in the fine-earth fraction

E horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6

Texture—loamy sand, loamy coarse sand, sandy loam, or coarse sandy loam in the fine-earth fraction

BE horizon (if it occurs):

Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6

Texture—sandy clay loam or clay loam in the fine-earth fraction

Redoximorphic features (if they occur)—masses of oxidized iron in shades of red, brown, or yellow; iron depletions in shades of gray; iron-manganese accumulations in shades of black or gray

Bt horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8

Texture—sandy clay, clay, or clay loam in the fine-earth fraction

Redoximorphic features (if they occur))—masses of oxidized iron in shades of red, brown, or yellow; iron depletions in shades of gray; iron-manganese accumulations in shades of black or gray

Btss horizon:

Color—hue of 10YR to 2.5Y and value and chroma of 1 to 6

Texture—clay

Redoximorphic features—iron or clay depletions in shades of gray within the upper 10 inches of the argillic horizon; masses of oxidized iron in shades of red, brown, or yellow; iron-manganese accumulations in shades of black or gray

Cg horizon (if it occurs):

Color—horizon is multicolored with hue of 7.5YR to 5BG, value of 4 to 6, and chroma of 1 to 4; in some pedons horizon has masses and streaks of green or black parent material or white saprolite

Texture—sandy clay loam, clay loam, or sandy clay in the fine-earth fraction

Redoximorphic features—iron depletions in shades of gray and masses of oxidized iron in shades of red, brown or yellow

Cr horizon:
Type of bedrock—weathered bedrock

R horizon (if it occurs):
Type of bedrock—unweathered bedrock

Georgeville Series

Landform: Hills
Parent material: Residuum weathered from metavolcanics and phyllite
Drainage class: Well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 2 to 15 percent
Taxonomic classification: Fine, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

- Cecil, Appling, and Pacolet soils, which have less than 30 percent silt in the control section
- Lloyd soils, which have less than 30 percent silt in the control section and have a subsoil with rhodic colors
- Mecklenburg soils, which have a base saturation of 35 percent or more and have less than 30 percent silt in the control section

Typical Pedon

Georgeville gravelly very fine sandy loam, 6 to 15 percent slopes, moderately eroded; Taliaferro County, Georgia; 0.8 mile southeast of the Greene-Taliaferro County line on Georgia Highway 22, about 0.7 mile southwest of the highway, along a logging road; Philomath, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 42 minutes 11 seconds N. and long. 82 degrees 58 minutes 10 seconds W.

A—0 to 5 inches; brown (7.5YR 5/3) gravelly very fine sandy loam; weak fine granular structure; very friable, slightly sticky, slightly plastic; common fine, common very fine, common medium, and common coarse roots; 6 percent cobbles and 12 percent gravel; moderately acid; abrupt wavy boundary.

Bt1—5 to 12 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine, common coarse, and common very fine roots; common distinct reddish brown (5YR 5/4) clay films on all faces of peds; 2 percent cobbles and 3 percent gravel; strongly acid; clear wavy boundary.

Bt2—12 to 37 inches; red (2.5YR 5/6) clay; strong medium subangular blocky structure; firm, moderately sticky, moderately plastic; few coarse and few very fine roots; many distinct reddish brown (5YR 5/4) clay films on all faces of peds; 2 percent cobbles; very strongly acid; clear wavy boundary.

CBt—37 to 55 inches; variegated 70 percent pink (5YR 7/4) and 30 percent red (2.5YR 5/6) silt loam to silty clay loam; common medium distinct pinkish white (5YR 8/2) mottles; moderate coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few fine and few very fine roots; common distinct reddish brown (2.5YR 5/4) clay films on vertical faces of peds; very strongly acid; gradual wavy boundary.

CB—55 to 72 inches; light red (2.5YR 6/6) silt loam; many coarse prominent pink (7.5YR 8/4) mottles; weak coarse subangular blocky structure; very friable, slightly sticky, slightly plastic; very strongly acid; gradual wavy boundary.

C—72 to 96 inches; yellow (10YR 7/6) silt loam; common medium distinct light gray (7.5YR 7/1) and many fine prominent red (2.5YR 5/6) mottles; massive; very friable, slightly sticky, slightly plastic; few fine flakes of mica; very strongly acid.

Range in Characteristics

Thickness of the solum: The clayey part of Bt horizon ranges from 24 to 48 inches in thickness; depth to the bottom of the Bt horizon exceeds 30 inches
Depth to bedrock: More than 60 inches
Content of rock fragments: 0 to 20 percent, by volume, in the A and E horizons and 0 to 10 percent in the B and C horizons
Content of mica flakes: Few in the lower horizons
Reaction: Very strongly acid to neutral in the A horizon and very strongly acid or strongly acid in the B and C horizons

A horizon or Ap horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 1 to 8
Texture—silt loam, loam, or very fine sandy loam in the fine-earth fraction

E horizon (if it occurs):
Color—hue of 5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8
Texture—silt loam, loam, or very fine sandy loam in the fine-earth fraction

Bt horizon, upper part:
Color—hue of 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay loam, silty clay loam, silty clay, or clay

Bt horizon, lower part:
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Mottles—in shades of red, yellow, or brown; in most pedons
Texture—clay loam, silty clay loam, silty clay, or clay

BC horizon (if it occurs):
Color—hue of 10R to 5YR, value of 4 to 6, and chroma of 6 to 8
Mottles—in shades of red, yellow, or brown; in most pedons
Texture—silt loam, loam, silty clay loam, or clay loam

C horizon (if it occurs) or CB or CBt horizon:
Color—hue of 10R to 10YR, value of 4 to 6, and chroma of 3 to 8
Mottles—in shades of red, yellow, white, gray, or brown; in most pedons
Texture—saprolite that crushes to silt loam, loam, very fine sandy loam, fine sandy loam, sandy loam, or silty clay loam

Hard Labor Series

Landform: Hills
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks
Drainage class: Moderately well drained
Permeability class: Slow
Depth class: Very deep
Slope range: 2 to 10 percent
Taxonomic classification: Fine, kaolinitic, thermic Oxyaquic Kanhapludults

Geographically Associated Soils

- Cecil, Appling, Lloyd, and Pacolet soils, which are well drained
- Cataula soils, which have a dominant hue of 5YR or redder
- Helena soils, which have mixed mineralogy and a seasonal high water table at a depth between 18 and 30 inches

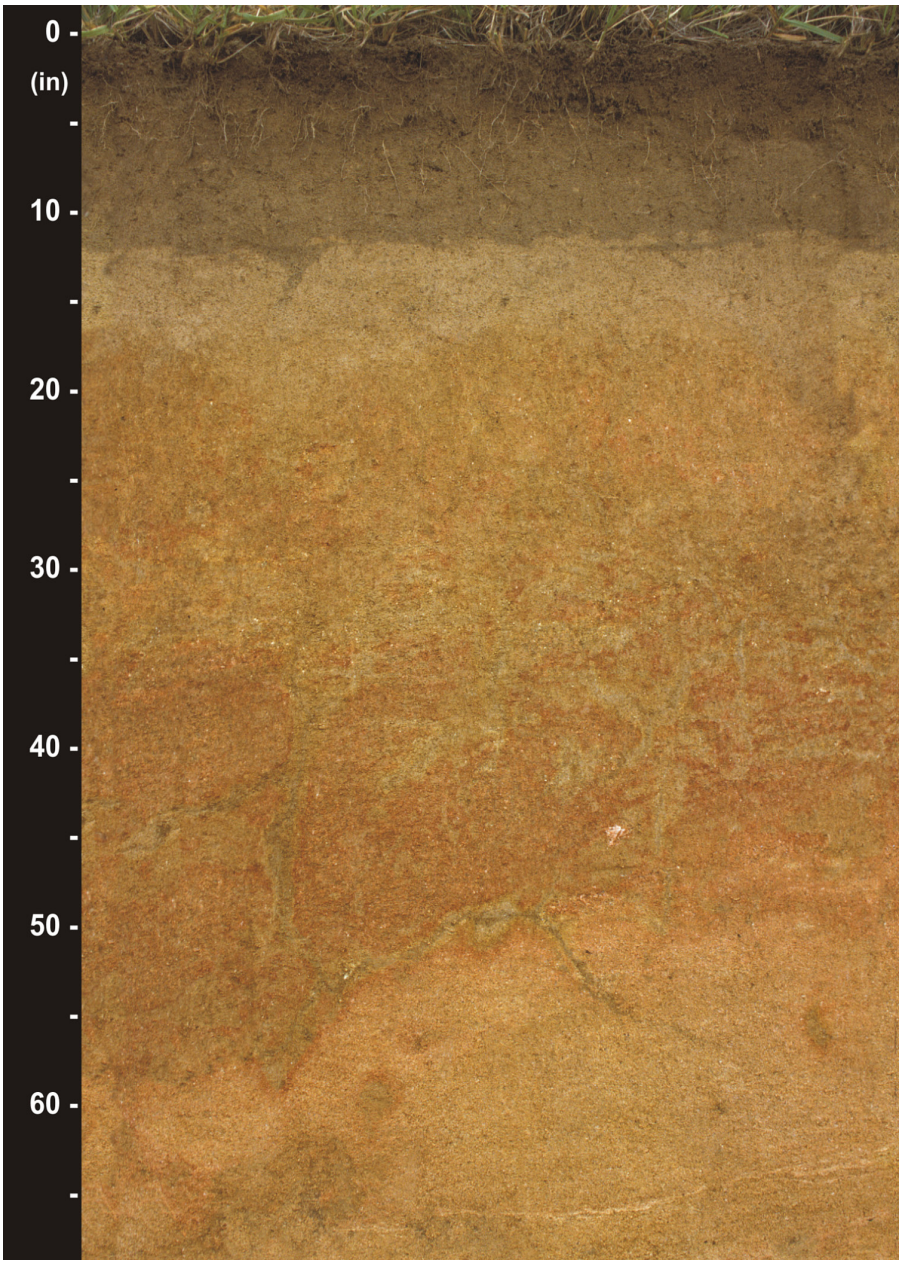

Figure 7.—Typical profile of Hard Labor soil. The Hard Labor soils have a perched water table typically at a depth of 30 to 40 inches (gray iron depletions are visible in the photo). These soils commonly occur on toeslopes.

Typical Pedon

Hard Labor sandy loam in an area of Hard Labor-Cecil complex, 2 to 6 percent slopes (fig. 7); Greene County, Georgia; 1.6 miles southwest of the intersection of Georgia Highway 15 and Eley Road, left on Jackson Avenue, 1.1 miles northeast along Jackson Avenue, 150 feet north of the road in a hay field; lat. 33 degrees 30 minutes 5 seconds N. and long. 83 degrees 0 minutes 24 seconds W.

A—0 to 3 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and many medium roots; strongly acid; clear smooth boundary.

E—3 to 9 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many fine and many medium roots; strongly acid; clear smooth boundary.
BE—9 to 15 inches; reddish yellow (7.5YR 6/6) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; many fine and many medium roots; strongly acid; gradual wavy boundary.
Bt1—15 to 22 inches; reddish yellow (7.5YR 6/6) sandy clay; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; very few clay films on all faces of peds; few coarse mica flakes; strongly acid; gradual wavy boundary.
Bt2—22 to 32 inches; variegated 50 percent brownish yellow (10YR 6/6), 30 percent light brown (7.5YR 6/4), and 20 percent red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few clay films on all faces of peds; common coarse mica flakes; strongly acid; gradual wavy boundary.
Bt3—32 to 38 inches; variegated 50 percent brownish yellow (10YR 6/6), 30 percent light brown (7.5YR 6/4), and 20 percent red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few clay films on all faces of peds; few medium light gray (10YR 7/1) and few medium light gray (10YR 7/2) iron depletions; common coarse mica flakes; strongly acid; gradual wavy boundary.
BC—38 to 60 inches; variegated 50 percent brownish yellow (10YR 6/6), 30 percent light brown (7.5YR 6/4), and 20 percent red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few medium light gray (10YR 7/1) iron depletions; common medium mica flakes; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Depth to bedrock: More than 60 inches
Content of mica flakes: None to common in the A, E, and Bt horizons and few to many in the BC and C horizons
Content of rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 10 percent in the B and C horizons
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 6
Texture—loamy coarse sand, loamy sand, coarse sandy loam, or sandy loam in the fine-earth fraction

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture—loamy coarse sand, loamy sand, coarse sandy loam, or sandy loam in the fine-earth fraction

BE or BA horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 3 to 8
Texture—coarse sandy loam, sandy loam, or sandy clay loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8; chroma of 3 is restricted to hue of 10YR; horizon may have hue ranging to 2.5YR, value of 5 to 7, and chroma of 4 to 6 in some subhorizons; horizon may have hue ranging to 2.5Y, value of 5 to 7, and chroma of 3 to 6 in the lower subhorizons
Texture—clay loam, sandy clay, or clay

Redoximorphic features—masses of oxidized iron in shades of brown in some pedons and iron depletions in shades of brown or gray; iron depletions with chroma of 2 occur below a depth of 30 inches

BC horizon:
Color—hue of 2.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy clay loam, clay loam, or sandy clay
Redoximorphic features—iron depletions in shades of brown or gray and masses of oxidized iron in shades of red or brown

C horizon (if it occurs):
Color—similar to the BC horizon; some pedons have masses and streaks of white stripped kaolinite
Texture—loamy saprolite
Redoximorphic features—iron depletions in shades of brown and gray and masses of oxidized iron in shades of red and brown

Helena Series

Landform: Broad hills
Parent material: Residuum weathered from a mixture of felsic, intermediate, or mafic, igneous or high-grade metamorphic rocks
Drainage class: Moderately well drained
Permeability class: Slow
Depth class: Very deep
Slope range: 2 to 25 percent
Taxonomic classification: Fine, mixed, semiactive, thermic Aquic Hapludults

Geographically Associated Soils

- Bush River soils, which have a paralithic contact at a depth between 40 and 60 inches
- Cataula and Hard Labor soils, which have kaolinitic mineralogy and a seasonal high water table at a depth between 30 and 40 inches
- Cecil, Appling, and Pacolet soils, which are well drained and have kaolinitic mineralogy
- Mecklenburg soils, which are well drained and have base saturation of more than 35 percent
- Prosperity soils, which have a paralithic contact at a depth between 20 to 40 inches

Typical Pedon

Helena loamy coarse sand, 2 to 6 percent slopes; Hancock County, Georgia; 1 mile northwest of Georgia Highway 16 along Poole Road, 175 feet northeast of Poole Road; Jewell, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 19 minutes 27 seconds N. and long. 82 degrees 51 minutes 58 seconds W.

A—0 to 3 inches; pale brown (10YR 6/3) loamy coarse sand; moderate fine granular structure; very friable, nonsticky, nonplastic; common very fine, common fine, common medium, and few coarse roots; extremely acid; clear smooth boundary.

E—3 to 8 inches; light yellowish brown (10YR 6/4) loamy coarse sand; weak fine granular structure; very friable, nonsticky, nonplastic; common very fine, common fine, common medium, and few coarse roots; very strongly acid; abrupt wavy boundary.

BE—8 to 19 inches; pale yellow (2.5Y 7/3) coarse sandy loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few very fine, few fine, and few medium roots; very strongly acid; gradual wavy boundary.

Bt—19 to 27 inches; pale yellow (2.5Y 7/3) sandy clay; moderate medium subangular blocky structure; friable, slightly hard, slightly sticky, slightly plastic; few fine roots; faint clay bridges between sand grains; common medium distinct brownish yellow (10YR 6/6) and common medium faint very pale brown (10YR 7/4) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Btg—27 to 42 inches; light gray (2.5Y 7/1) sandy clay; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; distinct clay films on all faces of peds; many medium prominent very pale brown (10YR 7/4), brownish yellow (10YR 6/6), and reddish yellow (7.5YR 6/8) masses of oxidized iron; very strongly acid; gradual wavy boundary.

Cg—42 to 60 inches; light gray (5Y 7/1) clay loam; massive; firm, moderately sticky, moderately plastic; distinct clay films on surfaces along root channels; many medium prominent yellow (10YR 7/6) masses of oxidized iron; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Depth to bedrock: More than 60 inches
Content of rock fragments: 0 to 35 percent, by volume, throughout the profile
Reaction: Extremely acid to strongly acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—loamy sand, loamy coarse sand, coarse sandy loam, fine sandy loam, sandy loam, or loam in the fine-earth fraction

E horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 4
Texture—loamy sand, loamy coarse sand, coarse sandy loam, fine sandy loam, sandy loam, or loam in the fine-earth fraction

BE horizon or BA horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy loam, coarse sand, loam, sandy clay loam, or clay loam in the fine-earth fraction

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; hue may range to 5YR in the lower part of horizon
Texture—clay loam, sandy clay, or clay in the fine-earth fraction
Redoximorphic features—iron depletions with chroma of 2 or less occur within 24 inches of the upper boundary of horizon; soft masses of iron accumulation in shades of yellow, brown, or red

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 to 2
Texture—clay loam, sandy clay, or clay in the fine-earth fraction
Redoximorphic features—soft masses of iron accumulation in shades of yellow, brown, or red

BC horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, loam, fine sandy loam, or sandy loam in the fine-earth fraction
Redoximorphic features—iron depletions with chroma of 2 or less; soft masses of iron accumulation in shades of yellow, brown, or red

BCg horizon (if it occurs):
Color—hue of 10YR to 2.5Y, value of 4 to 7, and chroma of 1 to 2

Texture—clay loam, sandy clay loam, sandy loam, loam, or fine sandy loam in the fine-earth fraction
Redoximorphic features—soft masses of iron accumulation in shades of yellow, brown, or red

C horizon (if it occurs):
Color—horizon has hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8 or is multicolored in shades of gray, yellow, brown, red, or white
Texture—saprolite that crushes to sandy loam, fine sandy loam, sandy clay loam, or loam in the fine-earth fraction

Cg horizon:
Color—horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 or is multicolored in shades of gray, yellow, brown, red, or white
Texture—sandy loam, fine sandy loam, sandy clay loam, clay loam, or loam in the fine-earth fraction

Lloyd Series

Landform: Hills
Parent material: Residuum weathered from intermediate and mafic, igneous and high-grade metamorphic rocks
Drainage class: Well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 2 to 30 percent
Taxonomic classification: Fine, kaolinitic, thermic Rhodic Kanhapludults

Geographically Associated Soils

- Cataula soils, which are moderately well drained
- Cecil and Pacolet soils, which do not have rhodic colors and formed in felsic igneous and high-grade metamorphic rock
- Mecklenburg soils, which are slowly permeable and have base saturation of more than 35 percent

Typical Pedon

Lloyd gravelly loam, 6 to 15 percent slopes, moderately eroded (fig. 8); Hancock County, Georgia; 1.7 miles south of the Greene-Hancock County line along Georgia Highway 15, about 1,600 feet west of the highway; White Plains, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 25 minutes 18 seconds N. and long. 83 degrees 2 minutes 55 seconds W.

A—0 to 3 inches; dark reddish brown (2.5YR 3/3) gravelly loam; weak coarse granular structure; very friable, slightly sticky, slightly plastic; many fine, many medium, and many very fine roots; 7 percent cobbles and 20 percent gravel; moderately acid; abrupt wavy boundary.
Bt1—3 to 10 inches; dark red (2.5YR 3/6) gravelly clay loam; weak medium subangular blocky structure; friable, moderately sticky, moderately plastic; common fine, common very fine, and few coarse roots; common distinct red (10R 4/6) clay films; common fine prominent manganese masses; 2 percent stones, 5 percent cobbles, and 20 percent gravel; moderately acid; clear wavy boundary.
Bt2—10 to 38 inches; dark red (2.5YR 3/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few medium and few very fine roots; common distinct red (10R 4/6) clay films on top faces of peds; common

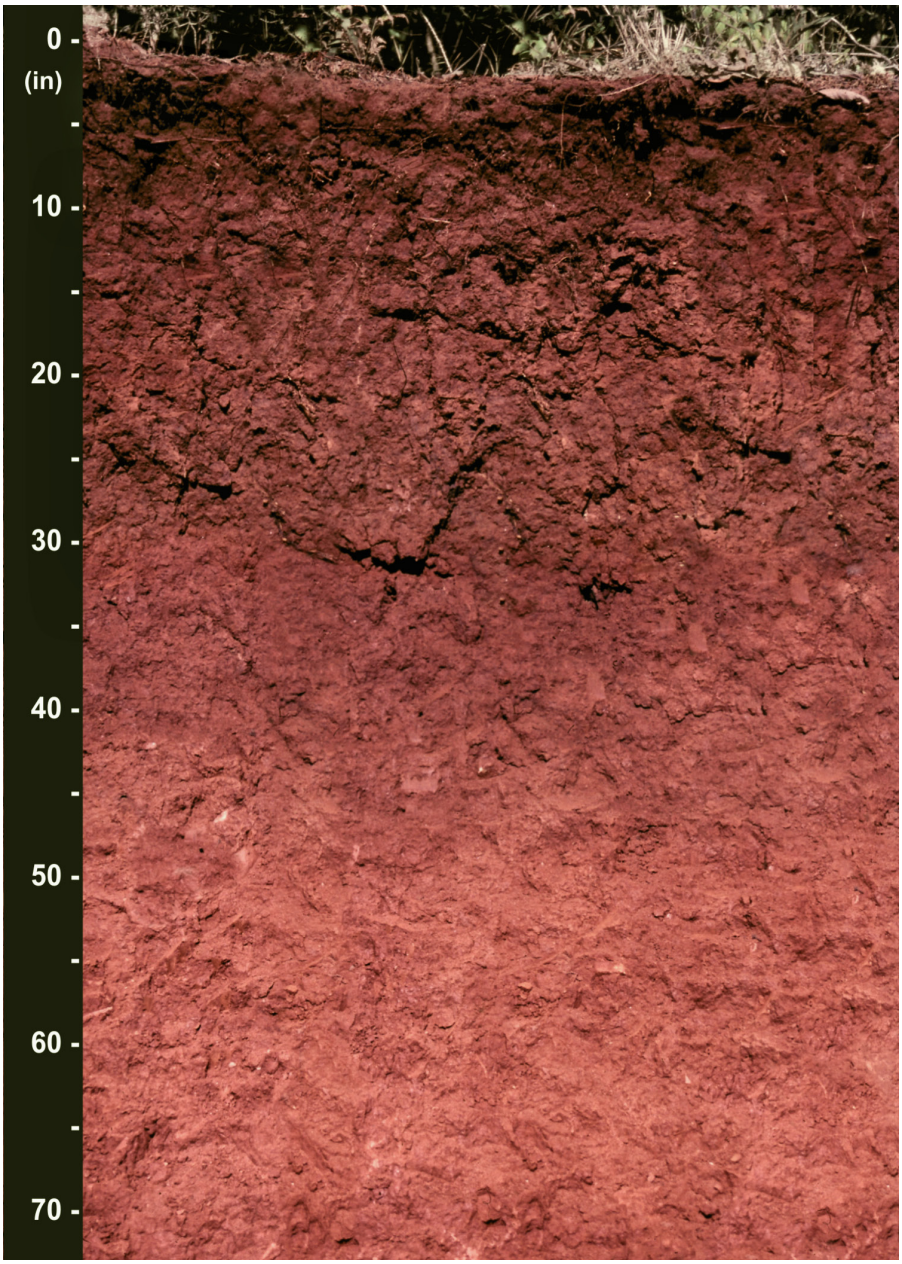

Figure 8.—Typical profile of Lloyd gravelly loam. This very old, well drained soil is characterized by deep, well drained subsoil horizons and a dark red (rhodic) color.

fine prominent manganese masses; 1 percent stones, 3 percent cobbles, and 5 percent gravel; moderately acid; clear wavy boundary.

Bt3—38 to 48 inches; red (10R 4/6) clay; few fine prominent reddish yellow (7.5YR 6/6) mottles; moderate coarse subangular blocky structure; firm, moderately sticky, moderately plastic; common distinct weak red (10R 4/4) clay films on all faces of peds; strongly acid; gradual wavy boundary.

BCt—48 to 60 inches; red (2.5YR 4/6) clay loam; common medium prominent brownish yellow (10YR 6/6) mottles; weak coarse subangular blocky structure; friable, slightly sticky, slightly plastic; few distinct red (10R 4/6) clay films on all faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches
Depth to bedrock: More than 60 inches
Content of mica flakes: Few or common in the A and B horizons; may range to many in the C horizon
Content of rock fragments: 0 to 15 percent, by volume, in the A and B horizons and 0 to 35 percent in the C horizon
Reaction: Slightly acid to very strongly acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 10R to 5YR, value of 2 to 4, and chroma of 2 to 6
Texture—loam, silt loam, fine sandy loam, sandy loam, clay loam, or sandy clay loam in the fine-earth fraction

Bt horizon, upper part:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 4 to 8
Texture—clay, sandy clay, clay loam, or silty clay in the fine-earth fraction

Bt horizon, lower part:
Color—hue of 10R or 2.5YR, value of 4, and chroma of 4 to 8
Texture—clay, sandy clay, clay loam, or silty clay

BCt horizon or BC horizon (if it occurs):
Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay loam, silty clay loam, or sandy clay loam

C horizon (if it occurs):
Color—horizon has hue of 10R to 10YR, value of 3 to 5, and chroma of 4 to 8 or is mottled with these colors
Texture—saprolite that crushes to clay loam, loam, sandy clay loam, silt loam, or sandy loam in the fine-earth fraction

Mecklenburg Series

Landform: Hills
Parent material: Residuum weathered from intermediate and mafic crystalline rocks
Drainage class: Well drained
Permeability class: Slow
Depth class: Very deep
Slope range: 2 to 25 percent
Taxonomic classification: Fine, mixed, active, thermic Ultic Hapludalfs

Geographically Associated Soils

- Crawfordville soils, which are somewhat poorly drained and have a paralithic contact at a depth between 20 and 40 inches
- Lloyd soils, which have rhodic colors and less than 35 percent base saturation
- Prosperity soils, which are moderately well drained and have a paralithic contact at a depth between 20 and 40 inches
- Sedgefield soils, which are somewhat poorly drained
- Wynott soils, which have a paralithic contact at a depth between 20 and 40 inches

Typical Pedon

Mecklenburg sandy loam in an area of Mecklenburg-Wynott complex, 2 to 15 percent slopes, moderately eroded (fig. 9); Hancock County, Georgia; at an elevation of 165 meters; 1 mile west of Springfield Road on Beaver Dam Road, 75 feet south of Beaver

Figure 9.—Typical profile of a Mecklenburg soil. These well drained soils are characterized by deep, well drained, clayey subsoil horizons and base saturation of more than 35 percent. (Scale is in centimeters.)

Dam Road; Sparta NW, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 23 minutes 42 seconds N. and long. 82 degrees 57 minutes 2 seconds W.

A—0 to 2 inches; very dark grayish brown (7.5YR 3/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine and common very fine roots; slightly acid; clear smooth boundary.

Bt1—2 to 27 inches; yellowish red (5YR 5/6) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few fine roots; very few faint clay films on all faces of peds; few fine manganese concretions throughout; slightly acid; gradual wavy boundary.

Bt2—27 to 47 inches; yellowish red (5YR 4/6) clay; weak medium angular blocky structure; very firm, moderately sticky, moderately plastic; very few distinct clay films on all faces of peds; few fine manganese concretions throughout; moderately acid; gradual wavy boundary.

BC—47 to 57 inches; yellowish red (5YR 4/6) clay loam; common fine distinct reddish yellow (7.5YR 6/6) and common medium distinct light gray (10YR 7/1) mottles; weak medium angular blocky structure; friable, nonsticky, nonplastic; few fine distinct spherical moderately cemented manganese concretions throughout; moderately acid; gradual wavy boundary.
C—57 to 60 inches; 60 percent red (2.5YR 4/6) and 40 percent strong brown (7.5YR 5/8) loam; few fine distinct pink (7.5YR 7/4) mottles; massive; very friable, nonsticky, nonplastic; moderately acid.

Range in Characteristics

Thickness of the solum: 20 to 60 inches
Depth to bedrock: More than 60 inches
Content of mica flakes: None or few throughout the profile
Content of rock fragments: 0 to 30 percent, by volume, in the A horizon and 0 to 10 percent in the B horizons
Reaction: Strongly acid to slightly acid in the A horizon and moderately acid to neutral in the B and C horizons

A horizon or Ap horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 6
Texture—fine sandy loam, sandy loam, silt loam, or loam in the fine-earth fraction

BE or BA horizon (if it occurs):
Color—hue of 2.5YR or 5YR, value of 3 to 6, and chroma of 4 to 8
Texture—loam, sandy clay loam, or clay loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 3 to 6, and chroma of 4 to 8; value is 4 to 6 in the lower part of horizon
Texture—clay

BC horizon:
Color—horizon has hue of 2.5YR to 7.5YR, value of 4 to 7, and chroma of 4 to 8 or is mottled in these colors
Texture—loam, sandy clay loam, or clay loam

C horizon:
Color—multicolored in shades of red, yellow, and brown
Texture—saprolite that crushes to loamy textures

Pacolet Series

Landform: Hills
Parent material: Residuum weathered from felsic igneous and metamorphic rocks
Drainage class: Well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 2 to 25 percent
Taxonomic classification: Fine, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

- Cataula and Hard Labor soils, which are moderately well drained
- Cecil and Appling soils, which have thicker argillic horizons
- Lloyd soils, which have rhodic colors in the upper part of the argillic horizon

Typical Pedon

Pacolet sandy loam, 2 to 6 percent slopes, moderately eroded; Taliaferro County, Georgia; 1.6 miles southeast of Georgia Highway 22 on Hillman Road, 430 feet northeast of the road, in a pasture; Crawfordville, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 37 minutes 28 seconds N. and long. 82 degrees 53 minutes 39 seconds W.

A—0 to 4 inches; dark brown (7.5YR 3/3) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; few fine and few very fine roots; few fine flakes of mica; 5 percent gravel; strongly acid; clear smooth boundary.

BA—4 to 6 inches; red (2.5YR 5/6) sandy clay loam; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; few fine roots; common fine flakes of mica; strongly acid; clear smooth boundary.

Bt1—6 to 18 inches; red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; firm, slightly sticky, slightly plastic; few fine roots; few clay films on all faces of peds; common fine flakes of mica; moderately acid; gradual smooth boundary.

Bt2—18 to 28 inches; red (2.5YR 4/6) sandy clay; weak fine subangular blocky structure; firm, nonsticky, nonplastic; few clay films on all faces of peds; common fine flakes of mica; moderately acid; gradual smooth boundary.

BC—28 to 42 inches; yellowish red (5YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable, nonsticky, nonplastic; common fine flakes of mica; strongly acid; gradual smooth boundary.

C—42 to 60 inches; yellowish red (5YR 5/6) sandy loam; massive; friable, nonsticky, nonplastic; common fine flakes of mica; 5 percent gravel; strongly acid.

Range in Characteristics

Thickness of the solum: The Bt horizon is at least 10 to 24 inches thick and extends to a depth of 18 to 30 inches

Depth to bedrock: More than 60 inches

Content of rock fragments: 0 to 35 percent, by volume, in the A and E horizons and 0 to 15 percent in the B and C horizons

Content of mica flakes: Few or common throughout the profile

Reaction: Very strongly acid to slightly acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 1 to 6

Texture—sandy loam, loamy sand, loamy coarse sand, fine sandy loam, or loam in the fine-earth fraction

E horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8

Texture—sandy loam, loamy sand, loamy coarse sand, fine sandy loam, or loam in the fine-earth fraction

BA horizon or BE horizon (if it occurs):

Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8

Texture—clay loam, sandy clay loam, or loam

Bt horizon:

Color—hue of 10R or 2.5YR, value of 4 or 5, and chroma of 6 or 8

Texture—clay, sandy clay, or clay loam

BC horizon:

Color—horizon has hue of 10R to 5YR, value of 4 or 5, and chroma of 6 or 8 or is multicolored in shades of red, yellow, or brown

Texture—clay loam, sandy clay loam, or sandy loam

C horizon:
Color—hue of 10R to 10YR, value of 4 or 5, and chroma of 3 to 8
Texture—loam or sandy loam

Prosperity Series

Landform: Hills
Parent material: Residuum weathered from felsic igneous and metamorphic rocks, primarily granite and granite gneiss
Drainage class: Moderately well drained
Permeability class: Slow
Depth class: Moderately deep
Slope range: 6 to 25 percent
Taxonomic classification: Fine, mixed, semiactive, thermic Aquic Hapludults

Geographically Associated Soils

- Crawfordville soils, which are somewhat poorly drained
- Mecklenburg soils, which are well drained and do not have a paralithic contact within a depth of 60 inches
- Helena soils, which do not have a paralithic contact within a depth of 60 inches
- Sedgefield soils, which are somewhat poorly drained and do not have a paralithic contact within a depth of 60 inches

Typical Pedon

Prosperity sandy loam in an area of Prosperity-Helena-Bush River complex, 6 to 15 percent slopes (fig. 10); Greene County, Georgia; 2 miles south-southwest of the intersection of Liberty Church Road and Walker's Church Road, 0.35 mile southeast on Gray Horse Road, 640 feet west of Gray Horse Road, in a pasture; Greensboro, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 31 minutes 2 seconds N. and long. 83 degrees 10 minutes 32 seconds W.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine, common fine, and few medium roots; moderately acid; abrupt smooth boundary.
E—4 to 15 inches; yellowish brown (10YR 5/6) coarse sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine, common fine, and few medium roots; moderately acid; clear smooth boundary.
Bt1—15 to 20 inches; brownish yellow (10YR 6/8) sandy clay loam; weak fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and few medium roots; very few clay films on all faces of peds; strongly acid; clear smooth boundary.
Bt2—20 to 26 inches; pale brown (10YR 6/3) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; few medium roots; few clay films on all faces of peds; common fine red (2.5YR 4/6) masses of oxidized iron; common fine light brownish gray (2.5Y 6/2) iron depletions; few fine iron-manganese concretions; strongly acid; gradual wavy boundary.
Btg—26 to 35 inches; light brownish gray (2.5Y 6/2) clay; strong medium subangular blocky structure; very firm, moderately sticky, moderately plastic; few clay films on all faces of peds; common medium brownish yellow (10YR 6/8) and common fine red (2.5YR 4/6) masses of oxidized iron; strongly acid; gradual wavy boundary.
Bt/C—35 to 38 inches; variegated 34 percent light yellowish brown (2.5Y 6/3), 33 percent brownish yellow (10YR 6/6), and 33 percent white (2.5YR 8/1) clay to

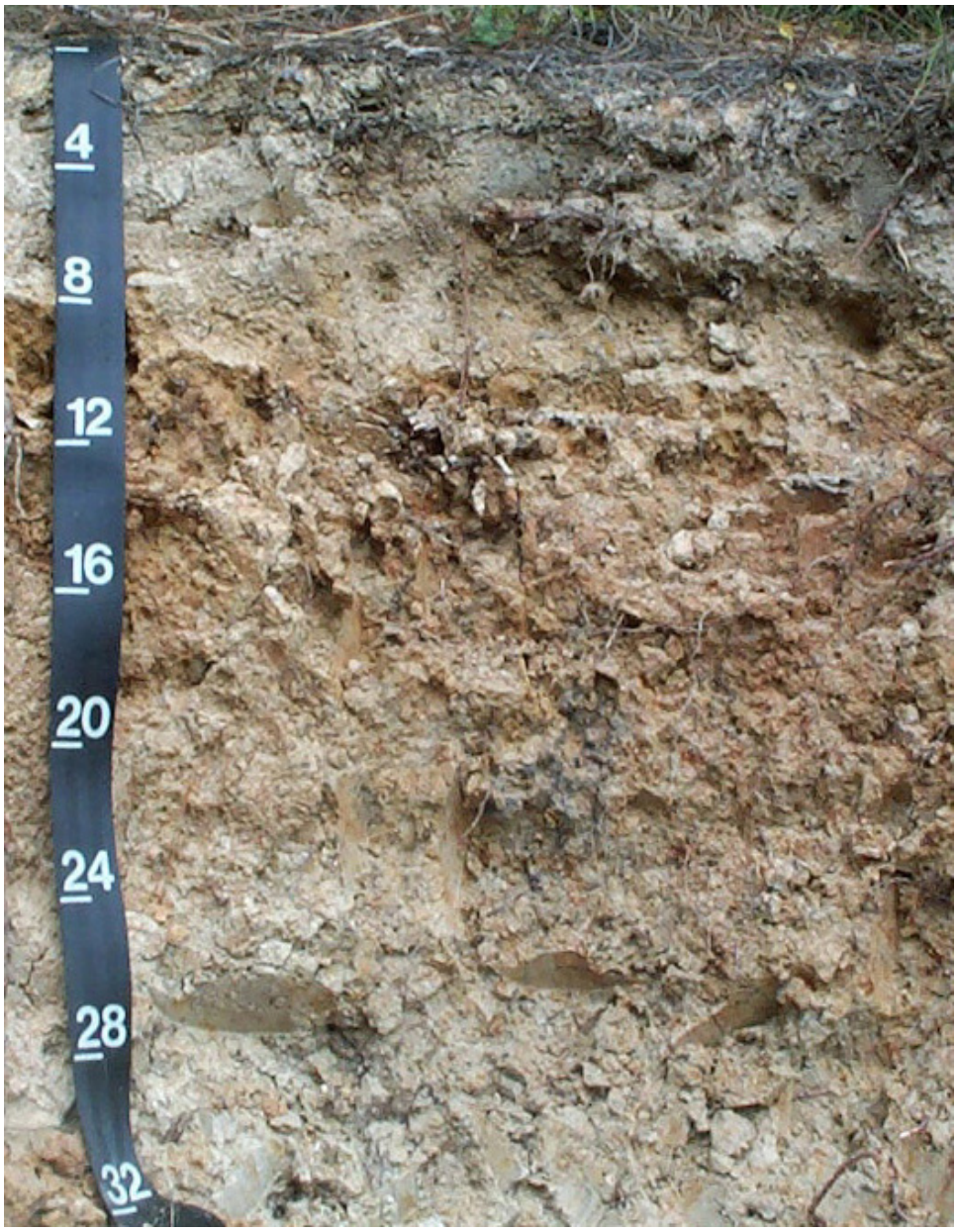

Figure 10.—Typical profile of a Prosperity soil. The moderately well drained Prosperity soils commonly occur on sloping side slopes. They have a perched water table at a depth between 18 and 30 inches, as indicated by gray iron depletions (visible in the photo). They also have a paralithic contact at a depth between 20 and 40 inches. (Scale is in inches.)

coarse sandy loam; moderate medium subangular blocky structure and massive; friable, slightly sticky, slightly plastic; strongly acid; abrupt wavy boundary.

Cr—38 to 48 inches; weathered, slightly to highly fractured bedrock.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Depth to hard bedrock: 40 to more than 60 inches

Content of rock fragments: 0 to 15 percent, by volume, throughout the profile
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—loamy sand, coarse sandy loam, sandy loam, or loam

E horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 2 to 6
Texture—loamy sand, coarse sandy loam, sandy loam, or loam

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—sandy clay loam or clay loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; hue may range to 5YR in lower subhorizons
Texture—clay, sandy clay, clay loam, or sandy clay loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of gray or yellow

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay, sandy clay, or clay loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown in most pedons

BC or BCt horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; hue may range to 5YR in some pedons
Texture—clay loam, sandy clay loam, loam, fine sandy loam, or sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of gray or yellow

BCg horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay loam, sandy clay loam, loam, fine sandy loam, or sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown in most pedons

CB or CBt horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture—clay loam, sandy clay loam, loam, fine sandy loam, or sandy loam
Redoximorphic features—masses of oxidized iron in shades of red, yellow, or brown and iron depletions in shades of gray or yellow

Ct horizon or C horizon (if it occurs):
Color—hue of 5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Mottles—lithochromic mottles in shades of red, yellow, brown, gray, or white may occur
Texture—sandy loam, fine sandy loam, sandy clay loam, or loam saprolite; seams of clay or clay loam occur in some pedons

Cr horizon:
Type of bedrock—weathered bedrock

Sedgefield Series

Landform: Hills
Parent material: Residuum weathered from intermediate and mafic crystalline rocks
Drainage class: Somewhat poorly drained
Permeability class: Slow
Depth class: Very deep
Slope range: 2 to 15 percent
Taxonomic classification: Fine, mixed, active, thermic Aquultic Hapludalfs

Geographically Associated Soils

- Crawfordville soils, which have a paralithic contact at a depth between 20 and 40 inches
- Helena soils, which are moderately well drained
- Mecklenburg soils, which are well drained and have a red subsoil
- Wynott soils, which are well drained and have a paralithic contact at a depth between 20 and 40 inches

Typical Pedon

Sedgefield sandy loam in an area of Sedgefield-Crawfordville complex, 2 to 6 percent slopes; Greene County, Georgia; 1.3 miles north of the intersection of Highway 278 and Cunningham Road on Cunningham Road, 1,100 feet east of the intersection of Cunningham Road and Adams Road, 225 feet south of Adams Road; Union Point, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 37 minutes 21 seconds N. and long. 83 degrees 6 minutes 52 seconds W.

A—0 to 6 inches; dark grayish brown (2.5Y 4/2) sandy loam; weak fine granular structure; very friable, nonsticky, nonplastic; common fine roots; moderately acid; clear smooth boundary.

BE—6 to 11 inches; light olive brown (2.5Y 5/4) sandy clay loam; weak fine subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots; few fine light olive brown (2.5Y 5/3) iron depletions and common fine brownish yellow (10YR 6/6) masses of oxidized iron; slightly acid; clear smooth boundary.

Bt1—11 to 22 inches; strong brown (7.5YR 5/8) clay; moderate medium subangular blocky structure; firm, moderately sticky, moderately plastic; very few clay films on all faces of peds; common fine light brownish gray (2.5Y 6/2) iron depletions and common fine red (2.5YR 4/6) masses of oxidized iron; moderately alkaline; gradual wavy boundary.

Bt2—22 to 36 inches; yellowish brown (10YR 5/6) clay; strong medium subangular blocky structure; very firm, very sticky, very plastic; very few clay films on all faces of peds; common fine light brownish gray (2.5Y 6/2) iron depletions; moderately alkaline; gradual wavy boundary.

BC—36 to 40 inches; brown (10YR 5/3) clay loam; weak fine subangular blocky structure; firm, moderately sticky, moderately plastic; few medium grayish brown (10YR 5/2) iron depletions; moderately alkaline; gradual wavy boundary.

C—40 to 60 inches; light yellowish brown (2.5Y 6/4) sandy loam; massive; friable, slightly sticky, slightly plastic; moderately alkaline.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: More than 60 inches
Content of rock fragments: 0 to 15 percent, by volume, throughout the profile
Reaction: Very strongly acid to slightly acid in the A horizon and the upper part of the Bt horizon and moderately acid to moderately alkaline in the lower part of the Bt horizon and in the C horizon

A horizon or Ap horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 to 4
Texture—sandy loam, fine sandy loam, loamy sand, sandy clay loam, or loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, loamy sand, or loam

BE horizon or BA horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 or 6, and chroma of 3 to 8
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron depletions with chroma of 2 or less in the upper 10 inches of horizon; soft masses of iron accumulation in shades of yellow, brown, or red

Btg horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay loam, sandy clay, or clay
Redoximorphic features—soft masses of iron accumulation in shades of yellow, brown, or red

BCg horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—sandy loam, sandy clay loam, clay loam, or loam
Redoximorphic features—soft masses of iron accumulation in shades of yellow, brown, or red

BC horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 8
Texture—clay loam, sandy clay, or clay
Redoximorphic features—iron depletions with chroma of 2 or less and soft masses of iron accumulation in shades of yellow, brown, or red

C horizon:
Color—multicolored in shades of yellow, brown, red, or gray
Texture—saprolite that crushes to sandy loam, sandy clay loam, clay loam, sandy clay, or loam

Cg horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—variable and can include sandy loam, sandy clay loam, clay loam, sandy clay, or loam
Redoximorphic features—soft masses of iron accumulation in shades of yellow, brown, or red

Wehadkee Series

Landform: Flood plains
Parent material: Loamy alluvium
Drainage class: Poorly drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 0 to 2 percent
Taxonomic classification: Fine-loamy, mixed, active, nonacid, thermic Fluvaquentic Endoaquepts

Geographically Associated Soils

- Chewacla soils, which are somewhat poorly drained
- Congaree soils, which are well drained or moderately well drained

Typical Pedon

Wehadkee loam, 0 to 2 percent slopes, frequently flooded; Greene County, Georgia; 2.6 miles northeast of the intersection of Farmington Road and Copelan Road on Copelan Road, 0.3 mile west of the road; Greshamville, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 38 minutes 56 seconds N. and long. 83 degrees 18 minutes 8 seconds W.

A—0 to 3 inches; brown (10YR 4/3) loam; weak medium granular structure; very friable, nonsticky, nonplastic; common medium, common very fine, and few coarse roots; few fine flakes of mica; strongly acid; clear smooth boundary.

Bw—3 to 12 inches; grayish brown (10YR 5/3) loam; weak medium subangular blocky structure; very friable, slightly sticky, nonplastic; common medium, common very fine, and few coarse roots; few fine flakes of mica; common medium prominent yellowish red (5YR 4/6) masses of oxidized iron; common medium faint grayish brown (10YR 5/2) iron depletions; moderately acid; clear smooth boundary.

Bg1—12 to 30 inches; light gray (2.5Y 7/2) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; common medium, common very fine, and few coarse roots; few fine flakes of mica; common medium prominent yellowish red (5YR 4/6) and brownish yellow (10YR 6/6) masses of oxidized iron; strongly acid; gradual smooth boundary.

Bg2—30 to 38 inches; bluish gray (5PB 6/1) silty clay loam; weak coarse subangular blocky structure; friable, moderately sticky, moderately plastic; few medium and few very fine roots; few fine flakes of mica; many medium prominent strong brown (7.5YR 5/6) masses of oxidized iron; strongly acid; gradual smooth boundary.

Cg—38 to 60 inches; gray (10YR 5/1) stratified loamy coarse sand to clay loam; massive; friable, moderately sticky, moderately plastic; few fine flakes of mica; strongly acid.

Range in Characteristics

Thickness of the solum: 20 to more than 60 inches

Content of mica flakes: Few to many throughout the profile

Content of rock fragments: 0 to 5 percent, by volume, in the A and B horizons and 0 to 20 percent in the C horizon

Reaction: Very strongly acid to neutral

A horizon:

Color—horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 3 to 6, and has chroma of 1 to 4

Texture—fine sandy loam, very fine sandy loam, loam, silty clay loam, sandy loam, or silt loam

Bg horizon:

Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 4 to 6, and has chroma of 0 to 2

Texture—sandy clay loam, silt loam, loam, clay loam, or silty clay loam

Redoximorphic features—soft masses of oxidized iron in shades or red, brown, or yellow in some pedons

Cg horizon:

Color—horizon is neutral in hue or has hue of 10YR to 5Y, has value of 4 to 7, and has chroma of 0 to 2

Texture—sandy loam, loam, or silt loam; stratified layers of sandy clay loam, clay loam, silty clay loam, or loamy sand in the fine-earth fraction; may range to sand in some pedons
Redoximorphic features—soft masses of oxidized iron in shades of red, brown, or yellow

The Wehadkee soils in this survey area are considered taxadjuncts to the series because, while redoximorphic features with chroma of 2 or less occur within 6 inches of the soil surface, the matrix colors have chromas that are higher than what is defined for the range of the series. This difference, however, does not affect the use and management of the soils.

Wickham Series

Landform: Stream terraces
Parent material: Fluvial sediments
Drainage class: Well drained
Permeability class: Moderate
Depth class: Very deep
Slope range: 2 to 6 percent
Taxonomic classification: Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Geographically Associated Soils

- Altavista soils, which are moderately well drained
- Chewacla soils, which are somewhat poorly drained and occur in the lower landscape positions
- Congaree soils, which are in the lower landscape positions

Typical Pedon

Wickham sandy loam, 2 to 6 percent slopes; Newton County, Georgia; 1,000 feet north of Starrsville, Georgia, to a farm road, 0.75 mile west-northwest to a railroad track, 200 feet northeast into pasture; Covington, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 32 minutes 44 seconds N. and long. 83 degrees 49 minutes 40 seconds W.

Ap—0 to 7 inches; reddish brown (5YR 4/3) sandy loam; weak fine granular structure; very friable; many very fine roots; strongly acid; clear smooth boundary.
Bt1—7 to 28 inches; reddish brown (5YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable; many fine roots; few fine clay films on all faces of peds; strongly acid; gradual wavy boundary.
Bt2—28 to 40 inches; yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few fine clay films on all faces of peds; strongly acid; gradual wavy boundary.
BC—40 to 52 inches; yellowish red (5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; strongly acid; gradual wavy boundary.
C—52 to 60 inches; yellowish red (5YR 4/6) gravelly sandy loam; massive; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 36 to more than 60 inches
Content of rock fragments: Dominantly 0 to 5 percent, by volume, throughout the profile; can range to 15 percent in the surface layer
Content of mica flakes: Dominantly none to common; ranging to many in the BC and C horizons
Reaction: Very strongly acid to moderately acid, except where lime has been applied

A horizon or Ap horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 to 8
Texture—sandy loam, fine sandy loam, loam, loamy fine sand, or loamy sand

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture—sandy loam, fine sandy loam, loam, loamy fine sand, or loamy sand

BA or BE horizon (if it occurs):
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 6 or 8
Texture—sandy loam, fine sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, loam, clay loam, or sandy loam

BC horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, sandy clay loam, or clay loam

C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture—sand, loamy sand, sandy loam, or sandy clay loam

Wynott Series

Landform: Hills
Parent material: Residuum weathered from dark-colored mafic rocks
Drainage class: Well drained
Permeability class: Slow
Depth class: Moderately deep
Slope range: 2 to 15 percent
Taxonomic classification: Fine, mixed, active, thermic Typic Hapludalfs

Geographically Associated Soils

- Bush River soils, which have a paralithic contact at a depth between 40 and 60 inches and are moderately well drained
- Mecklenburg soils, which do not have a paralithic contact within a depth of 60 inches and have a redder subsoil
- Sedgefield soils, which do not have a paralithic contact within a depth of 60 inches and are somewhat poorly drained

Typical Pedon

Wynott sandy loam in an area of Wynott-Wilkes-Enon complex, 2 to 15 percent slopes, moderately eroded; Hancock County, Georgia; 1,200 feet north-northwest of the intersection of Centennial Road and Georgia Highway 77, about 325 feet east of Centennial Road; Shoulderbone, Georgia, USGS 7.5-minute quadrangle; lat. 33 degrees 20 minutes 39 seconds N. and long. 83 degrees 4 minutes 52 seconds W.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) sandy loam; moderate medium granular structure; very friable, nonsticky, nonplastic; many fine and many very fine roots; 2 percent stones; slightly acid; clear smooth boundary.
Bt1—4 to 7 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate fine subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and common very fine roots; moderately acid; clear smooth boundary.
Bt2—7 to 10 inches; yellowish brown (10YR 5/4) clay; moderate fine angular blocky structure; firm, moderately sticky, moderately plastic; common fine, common very

fine, and few medium roots; many pale brown (10YR 6/3) clay films; common fine red (2.5YR 4/8) and common fine yellowish red (5YR 5/6) masses of oxidized iron; moderately acid; clear smooth boundary.

Bt3—10 to 18 inches; light yellowish brown (10YR 6/4) clay; moderate platy and weak coarse subangular blocky structure; firm, moderately sticky, moderately plastic; few fine, few medium, and few coarse roots; many pale brown (10YR 6/3) clay films; many fine yellowish red (5YR 5/6) and common fine red (2.5YR 4/8) masses of oxidized iron; strongly acid; clear wavy boundary.

BCt—18 to 23 inches; light yellowish brown (10YR 6/4) sandy clay; weak very thin platy and weak coarse subangular blocky structure; firm, very sticky, very plastic; few fine, few medium, few coarse, and few very fine roots; common pale brown (10YR 6/3) clay films; many fine brownish yellow (10YR 6/6) masses of oxidized iron; few fine mica flakes; moderately acid; abrupt irregular boundary.

Cr—23 to 68 inches; variegated yellow (10YR 7/6), very pale brown (10YR 8/2), and light yellowish brown (2.5Y 6/3) weathered saprolite that crushes to loamy fine sand; few fine, few medium, and few coarse roots; many fine mica flakes; moderately acid; abrupt irregular boundary.

R—68 inches; variegated hard bedrock.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to soft bedrock: 20 to 40 inches

Depth to hard bedrock: 40 to more than 60 inches

Content of rock fragments: 0 to 35 percent, by volume, in the A horizon and less than 40 percent in the B and C horizons

Reaction: Very strongly acid to slightly acid throughout the profile, except where lime has been applied

A horizon or Ap horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8

Texture—loam, fine sandy loam, sandy loam, or silt loam in the fine-earth fraction

E horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6

Texture—loam, sandy loam, fine sandy loam, or silt loam in the fine-earth fraction

EB or BE horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6

Texture—loam, silt loam, sandy loam, sandy clay loam, clay loam, or silty clay loam in the fine-earth fraction

Bt horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8; some pedons have mottles in shades of yellow or brown

Texture—clay loam, silty clay, sandy clay, or clay in the fine-earth fraction

BC horizon (if it occurs) or BCt horizon:

Color—horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8 or it is mottled or multicolored in shades of brown, yellow, black, or white

Texture—sandy clay, sandy clay loam, clay loam, or loam in the fine-earth fraction

C horizon (if it occurs):

Color—horizon is mottled or multicolored in shades of brown, yellow, black, or white

Texture—variable; commonly sandy loam, loam, or silt loam in the fine-earth fraction

Cr horizon:
Type of bedrock—multicolored weathered mafic rock

R horizon (if it occurs):
Type of bedrock—unweathered, hard mafic rock

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in Greene County. It also discusses the geology of the survey area.

Factors of Soil Formation

Soil characteristics are determined by: 1) the physical and mineralogical composition of the parent material; 2) the plants and animals living on and in the soil; 3) the climate under which the parent material accumulated and has existed since accumulation; 4) the relief, or lay of the land; and 5) the length of time that the forces of soil formation have acted on the soil material. All of these factors influence every soil, but the significance of each factor varies from place to place. In one area, one factor may dominate soil formation; in another area, a different factor may dominate.

The interrelationships among the five soil-forming factors are complex, and the effects of any one factor cannot be isolated and completely evaluated. It is convenient, however, to describe each factor separately and to indicate the probable effects of each.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. The chemical and mineralogical composition of the soil is derived largely from the parent material. Parent material influences the amount of sand, silt, and clay in a soil as well as acidity, color, erodibility, depth to bedrock, resistance to weathering, and other soil characteristics that affect use and management. For example, the amount of clay in a soil is directly related to the minerals that occur in the parent material. The amount of clay affects such factors as workability, fertilizer and water retention, and the performance of septic tank filter fields.

Parent material in Greene County is a major factor in determining what kind of soil forms and can be correlated to some degree to geologic formations. The general soil map can serve as an approximate guide to the geology of the county.

The soils of Greene County formed from parent material that slowly accumulated from the weathering of consolidated bedrock or that was transported and deposited by the forces of water. Major differences in parent material, such as texture, can be observed in the field. Less distinct differences, such as mineralogical composition, are determined by careful laboratory analysis. There are two categories of parent material in the county—residuum and alluvium.

Residuum

Residuum occurs throughout the county on summits and side slopes of uplands. Residual parent material is the result of bedrock weathering in place. The kind and thickness of the residuum is, in part, related to the mineral composition of the consolidated bedrock and its degree of resistance to weathering. The soils in the survey area primarily formed in materials weathered from crystalline rock, such as

granite gneiss, intermediate gneiss, amphibolites, mica schist, and basic hornfels (Lawton and others, 1976). Cecil, Cataula, and Pacolet soils are examples of soils that have a red subsoil and formed in parent material weathered mainly from granite, granite gneiss, or intermediate gneiss. Lloyd soils are an example of soils that have a dark surface layer and subsoil and formed in parent material weathered mainly from biotite gneiss or intermediate gneiss. These soils occur throughout the county.

Mafic, high-grade metamorphic rocks, such as hornblende gneiss and amphibolites, yield parent material that is rich in clay-forming minerals. Crawfordville, Enon, and Sedgefield soils are examples of soils that have a firm, sticky, and plastic subsoil and formed from this type of residuum. These soils are of small extent in the survey area. They occur throughout the county but are concentrated in the northeastern section.

Alluvium

Alluvium is soil material or rock fragments, or both, that have been deposited by moving water. Soils that formed in recent alluvium are on active flood plains along the larger streams and the Apalachee and Oconee Rivers. Alluvial soils have very little development because the soil-forming processes are interrupted by each flooding event. The texture of the alluvial material varies, depending on the speed of the flood water, the duration of flooding, and the distance from the streambank. Alluvial soils are usually stratified with increasing quantities of rounded rock fragments. Soils that formed in old alluvium occur on the higher stream terraces and on some hillslopes, which are typically adjacent to flood plains. Stream terraces are the remnants of ancient, higher flood-plain levels, and most are no longer subject to deposition by recent alluvium.

Soils that formed in recent alluvium can be coarse, loamy, or fine textured, depending upon their location on the flood plain. Coarse textured soils commonly occur adjacent to the stream channel and on the upper reaches of flood plains, near the base of the hillsides. These soils do not have a high degree of profile development. Finer textured alluvium is deposited on the main part of the flood plain and in backwater areas adjacent to uplands. Chewacla, Congaree, and Wehadkee soils formed on the main parts of the flood plain.

Soils that formed in old alluvium occur on higher stream terraces. Soils on stream terraces and footslopes that formed in old alluvium have well developed profiles and horizons. They can have a loamy subsoil, depending upon the geologic time period in which the alluvium was deposited. Altavista and Wickham soils formed in old alluvium on stream terraces.

Plants and Animals

The effects of plants, animals, and other organisms on soil formation are significant. Plants and animals increase the content of organic matter and nitrogen in the soil, increase or decrease the content of plant nutrients, and change soil structure and porosity.

Plants recycle nutrients, add organic matter to the soil, and provide food and cover for animals. They stabilize the surface layer so that the soil-forming processes can continue. They also provide a more stable environment for the soil-forming processes by protecting the soil from extremes in temperature. The soils in Greene County formed under a succession of briers, brambles, and woody plants that were dominated by pines and hardwoods. Hardwoods eventually suppressed most other plants and became the predominant type of plant in the climax plant community.

Animals rearrange soil material by making the surface rough, by forming and filling channels, and by shaping the peds and voids. The soil is mixed by ants, wasps, worms, and spiders, which make channels; by crustaceans, such as crayfish; and by turtles and foxes, which dig burrows. Humans affect the soil-forming processes by tilling, removing natural vegetation and establishing different plants, and reducing or

increasing the level of fertility. Bacteria, fungi, and other micro-organisms hasten the decomposition of organic matter and increase the rate at which nutrients are released for plant growth.

The net gains and losses caused by plants and animals are important in the county. Within the relatively small confines of the survey area, however, one soil is not significantly different from another because of the effects of plants and animals.

Climate

The present climate of the survey area is probably similar to the climate that existed when the soils formed. The relatively high amount of rainfall and warm temperatures contribute to rapid soil formation. Rainfall and temperature are the two most important climatic features that relate to soil properties.

Water from precipitation is essential in soil formation. It dissolves soluble materials and is used by plants and animals. It transports material from one part of the soil to another part and from one area of the landscape to another area.

The soils in the survey area formed under a thermic temperature regime. In a thermic temperature regime, the mean soil temperature at a depth of 20 inches is 59 to 72 degrees F. Based on the mean annual air temperature, the estimated soil temperature in the survey area is 60 degrees F. The rate of chemical reactions and other processes in the soil depends to some extent on temperature. In addition, temperature affects the type and quality of vegetation, the amount and kind of organic matter, and the rate at which the organic matter decomposes.

Relief

Relief is the elevations or inequalities of a land surface considered collectively. The color of the soil, the degree of wetness, the thickness of the A horizon, the content of organic matter, and the plant cover are commonly related to relief.

In the survey area, the most obvious effects of relief are those that relate to soil color and the degree of soil wetness. Most Cecil soils have a red subsoil, whereas Hard Labor soils have a grayish brown subsoil. The difference in color results from a difference in relief and a corresponding difference in internal drainage. Because Cecil soils are in the higher positions on the landscape and are better drained than Hard Labor soils, Cecil soils are better oxidized and have a reddish subsoil.

The movement of water across the surface and through the soil is controlled mostly by relief. Water flowing across the surface commonly carries solid particles and causes erosion or deposition, depending on the kind of relief. In the sloping areas, the soils are drier because more water runs off and less water penetrates the surface. The soils in low-lying areas are commonly wetter because they receive the water that flows off and through the soils in the higher positions of the landscape.

Time

The length of time that the soil-forming processes have acted on the parent material helps to determine the characteristics of the soil. Determinations of when soil formation began in the survey area are not exact. Most of the soils are considered mature.

Mature soils are in equilibrium with the environment. They are characterized by pedogenic horizons that are readily recognizable and a carbon content that decreases regularly as depth increases. Some areas of Lloyd soils are on stable landscapes where the soil-forming processes have been active for thousands of years. These mature soils have a solum that is highly weathered and a zone of illuviation that is well expressed.

Erosion has removed most of the zone of eluviation in some places. Congaree soils are young soils. They receive sediment annually from floodwater. They are stratified

and are not old enough to have a zone of illuviation. They do not have pedogenic horizons and are characterized by a carbon content that decreases irregularly as depth increases.

Geology

Mark Hall, geologist, prepared this section.

Greene County lies within the Washington Slope District of the Piedmont Physiographic Province (Clark and Zisa, 1976) and the Southern Piedmont Major Land Resource Area (MLRA 136) (USDA, 2006). The survey area is characterized by gently rolling topography ranging in elevation from about 300 to 800 feet above sea level. Nearly level soils occur on flood plains, sloping to steeply sloping soils occur on hillsides, and very gently sloping and sloping soils occur on ridges.

The Washington Slope District is mainly comprised of crystalline and intermediate igneous and metamorphic rocks dating from the Precambrian era to the Paleozoic era. Some areas contain mafic rocks characterized by higher amounts of dark-colored minerals such as amphibolite and hornblende. Areas of fine grained metavolcanic rocks from the Carolina Slate Belt, along with mafic and ultramafic rocks, occur in a small portion of the northeastern part of the county. Soils such as Georgeville that weathered from the fine grained metavolcanic rocks have higher silt contents than the surrounding soils that weathered from the more prominent coarse grained materials. The mafic and unltramafic rocks occurred as intrusions during rock formation. The rest of the county is mainly composed of granite gneiss units with some undifferentiated granite in the eastern portion of the county. Soils associated with the undifferentiated granite generally have a coarse surface layer, a more gravelly subsoil, and some surface boulders. A narrow fault zone in a belt of granite gneiss runs southwest to northeast through central Greene County.

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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).

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.

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.

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.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

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.
Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
Canopy. The leafy crown of trees or shrubs. (See Crown.)
Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
Chemical treatment. Control of unwanted vegetation through the use of chemicals.
Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
Clay depletions. See Redoximorphic features.
Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
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.
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.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

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.

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.

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.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion surface. A land surface shaped by the action of erosion, especially by running water.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

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*.

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.

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.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Foothills. A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

Footslope. The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

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.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope (geomorphology). A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

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:

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.

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.

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.

Iron depletions. See Redoximorphic features.

Irrigation. Application of water to soils to assist in production of crops.

K_{sat}. See Saturated hydraulic conductivity.

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.
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.
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).
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

Parent material. The unconsolidated organic and mineral material in which soil forms.
Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

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.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

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.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Pore linings. See Redoximorphic features.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed as pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3

Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
   B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
   C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
   B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

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.

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.

Saturated hydraulic conductivity (K_{sat}). The ease with which pores of a saturated soil transmit water. Formally, the proportionality coefficient that expresses the relationship of the rate of water movement to hydraulic gradient in Darcy's Law, a law that describes the rate of water movement through porous media. Commonly abbreviated as "K_{sat}." Terms describing saturated hydraulic conductivity are *very high*, 100 or more micrometers per second (14.17 or more inches per hour); *high*, 10 to 100 micrometers per second (1.417 to 14.17 inches per hour); *moderately high*, 1 to 10 micrometers per second (0.1417 inch to 1.417 inches per hour); *moderately low*, 0.1 to 1 micrometer per second (0.01417 to 0.1417 inch per hour); *low*, 0.01 to 0.1 micrometer per second (0.001417 to 0.01417 inch per hour); and *very low*, less than 0.01 micrometer per second (less than 0.001417 inch per hour). To convert inches per hour to micrometers per second, multiply inches per hour by 7.0572. To convert micrometers per second to inches per hour, multiply micrometers per second by 0.1417.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike. All the soils of a given series have horizons that are similar in composition, thickness, and arrangement.

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.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 6 percent
Sloping	6 to 10 percent
Strongly sloping	10 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 35 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 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.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic*

(vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (conservation). An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geomorphology). A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation

than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

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.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Siloam, Georgia)

Month	Temperature (degrees F)						Precipitation (inches)				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temp. higher than--	Minimum temp. 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
January--	54.1	33.3	43.7	74	8	45	5.19	3.54	6.92	7	0.6
February-	59.1	35.7	47.4	79	14	75	4.78	2.74	6.82	6	0.8
March----	67.1	42.5	54.8	85	21	203	5.02	2.97	7.06	7	0.2
April----	74.6	48.6	61.6	90	29	354	3.55	1.65	5.27	5	0.0
May------	81.7	57.0	69.4	93	40	597	3.59	2.08	5.10	5	0.0
June-----	88.4	64.7	76.6	100	49	795	3.24	1.68	4.64	5	0.0
July-----	91.2	68.8	80.0	102	61	929	4.66	2.02	7.12	6	0.0
August---	89.4	67.9	78.7	100	58	889	3.91	2.15	5.41	6	0.0
September	84.3	62.2	73.3	97	45	698	3.28	1.35	5.20	5	0.0
October--	75.1	50.7	62.9	89	32	403	2.86	1.12	4.56	4	0.0
November-	65.8	42.5	54.2	83	23	182	3.45	1.89	4.79	5	0.0
December-	56.7	35.8	46.2	76	13	73	3.59	2.17	4.86	6	0.0
Yearly:											
Average	74.0	50.8	62.4	---	---	---	---	---	---	---	---
Extreme	107	-7	---	103	6	---	---	---	---	---	---
Total--	---	---	---	---	---	5,244	47.11	40.49	53.43	67	1.7

* 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 (50 degrees F).

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Siloam, Georgia)

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. 17	Apr. 2	Apr. 17
2 years in 10 later than--	Mar. 8	Mar. 26	Apr. 11
5 years in 10 later than--	Feb. 21	Mar. 14	Mar. 29
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 21	Nov. 4	Oct. 22
2 years in 10 earlier than--	Nov. 28	Nov. 10	Oct. 28
5 years in 10 earlier than-	Dec. 11	Nov. 19	Nov. 7

Table 3.—Growing Season

(Recorded in the period 1971-2000 at Siloam, Georgia)

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	261	229	199
8 years in 10	271	237	208
5 years in 10	291	251	224
2 years in 10	311	265	240
1 year in 10	322	273	248

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AkB	Altavista sandy loam, 2 to 6 percent slopes, rarely flooded	870	0.3
CaD	Cataula coarse sandy loam, 6 to 15 percent slopes, very bouldery	117	*
CcD2	Cataula-Cecil complex, 6 to 15 percent slopes, moderately eroded	18,490	7.1
CeB2	Cecil gravelly sandy loam, 2 to 6 percent slopes, moderately eroded	37,890	14.6
CeC2	Cecil gravelly sandy loam, 6 to 10 percent slopes, moderately eroded	44,870	17.3
CfE3	Cecil-Cataula complex, 10 to 25 percent slopes, severely eroded	5,405	2.1
ChA	Chewacla silt loam, 0 to 2 percent slopes, frequently flooded	18,640	7.2
COA	Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded	4,764	1.8
GeB2	Georgeville gravelly very fine sandy loam, 2 to 6 percent slopes, moderately eroded	969	0.4
GeD2	Georgeville gravelly very fine sandy loam, 6 to 15 percent slopes, moderately eroded	295	0.1
HaB	Hard Labor-Appling complex, 2 to 6 percent slopes	12,110	4.7
HaC	Hard Labor-Appling complex, 6 to 10 percent slopes	4,175	1.6
HcB	Hard Labor-Cecil complex, 2 to 6 percent slopes	1,594	0.6
HdC2	Hard Labor-Cecil complex, 6 to 10 percent slopes, moderately eroded	1,701	0.7
HeB	Helena loamy coarse sand, 2 to 6 percent slopes	5,826	2.2
HnC	Helena loamy sand, 6 to 10 percent slopes	7,475	2.9
LdB2	Lloyd gravelly loam, 2 to 6 percent slopes, moderately eroded	14,590	5.6
LdD2	Lloyd gravelly loam, 6 to 15 percent slopes, moderately eroded	15,130	5.8
LdE2	Lloyd gravelly loam, 15 to 30 percent slopes, moderately eroded	2,485	1.0
LfB3	Lloyd sandy clay loam, 2 to 6 percent slopes, severely eroded	1,104	0.4
M-W	Miscellaneous water	76	*
MbD	Mecklenburg-Crawfordville complex, 6 to 15 percent slopes	6,915	2.7
McE2	Mecklenburg-Prosperity-Helena complex, 15 to 25 percent slopes, moderately eroded	2,086	0.8
MeB2	Mecklenburg-Sedgefield complex, 2 to 6 percent slopes, moderately eroded	1,085	0.4
MkD2	Mecklenburg-Wynott complex, 2 to 15 percent slopes, moderately eroded	978	0.4
PaB	Pacolet loamy sand, 2 to 6 percent slopes, bouldery	302	0.1
PaD	Pacolet loamy sand, 6 to 15 percent slopes, bouldery	601	0.2
PcD2	Pacolet sandy loam, 6 to 15 percent slopes, moderately eroded	7,930	3.1
PcE2	Pacolet sandy loam, 15 to 25 percent slopes, moderately eroded	13,920	5.4
PfD2	Pacolet-Cataula complex, 6 to 15 percent slopes, moderately eroded	5,300	2.0
Pq	Pits, quarries	116	*
PrD	Prosperity-Helena-Bush River complex, 6 to 15 percent slopes	817	0.3
Ro	Rock outcrop	191	*
SgB	Sedgefield-Crawfordville complex, 2 to 6 percent slopes	2,220	0.9
SgD	Sedgefield-Crawfordville complex, 6 to 15 percent slopes	676	0.3
W	Water	12,025	4.6
WeA	Wehadkee loam, 0 to 2 percent slopes, frequently flooded	1,850	0.7
WfB	Wickham sandy loam, 2 to 6 percent slopes	1,646	0.6
WkB	Wickham sandy loam, 2 to 6 percent slopes, rarely flooded	2,666	1.0
	Total	259,900	100.0

* Less than 0.1 percent.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture

(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	Corn	Cotton lint	Grass hay	Pasture	Wheat
		Bu	Lbs	Tons	AUM	Bu
AkB:						
Altavista, rarely flooded	2e	115.00	550.00	4.50	11.50	55.00
CaD:						
Cataula, very bouldery	6s	---	---	---	6.50	---
CcD2:						
Cataula, moderately eroded	4e	70.00	700.00	3.50	6.50	35.00
Cecil, moderately eroded	4e	75.00	600.00	4.50	8.00	35.00
CeB2:						
Cecil, moderately eroded	2e	90.00	600.00	4.50	8.00	40.00
CeC2:						
Cecil, moderately eroded	3e	80.00	600.00	4.20	8.00	35.00
CfE3:						
Cecil, severely eroded	6e	---	---	---	8.00	---
Cataula, severely eroded	6e	---	---	---	6.00	---
ChA:						
Chewacla, frequently flooded	4w	80.00	---	5.00	9.00	30.00
COA:						
Chewacla, frequently flooded	4w	80.00	---	5.00	9.00	30.00
Congaree, frequently flooded	3w	100.00	---	5.00	7.50	50.00
GeB2:						
Georgeville, moderately eroded	2e	90.00	600.00	4.50	7.00	35.00
GeD2:						
Georgeville, moderately eroded	4e	75.00	600.00	4.50	7.00	35.00
HaB:						
Hard Labor	2e	75.00	650.00	4.50	8.00	40.00
Appling	2e	95.00	650.00	4.80	8.00	45.00
HaC:						
Hard Labor	3e	75.00	650.00	4.50	8.00	40.00
Appling	3e	85.00	650.00	4.80	8.00	45.00
HcB:						
Hard Labor	2e	80.00	650.00	4.50	8.00	40.00
Cecil	2e	95.00	600.00	4.50	8.00	40.00

Table 5.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grass hay	Pasture	Wheat
		Bu	Lbs	Tons	AUM	Bu
HdC2:						
Hard Labor, moderately eroded	3e	70.00	650.00	4.50	8.00	40.00
Cecil, moderately eroded	3e	80.00	600.00	4.50	8.00	40.00
HeB:						
Helena	2e	80.00	575.00	3.50	6.00	40.00
HnC:						
Helena	3e	70.00	575.00	3.20	6.00	40.00
LdB2:						
Lloyd, moderately eroded	2e	95.00	550.00	5.00	8.50	45.00
LdD2:						
Lloyd, moderately eroded	4e	80.00	450.00	5.00	7.50	45.00
LdE2:						
Lloyd, moderately eroded	6e	---	---	---	7.50	---
LfB3:						
Lloyd, severely eroded	3e	80.00	500.00	4.50	8.00	45.00
M-W.						
Miscellaneous water						
MbD:						
Mecklenburg	4e	60.00	450.00	3.00	6.50	38.00
Crawfordville	4e	60.00	---	3.00	4.00	24.00
McE2:						
Mecklenburg, moderately eroded	6e	---	---	---	6.50	---
Prosperity, moderately eroded	6e	---	---	---	5.80	---
Helena, moderately eroded	6e	---	---	---	6.00	---
MeB2:						
Mecklenburg, moderately eroded	2e	60.00	450.00	3.30	6.50	38.00
Sedgefield, moderately eroded	2e	70.00	500.00	3.30	5.50	30.00
MkD2:						
Mecklenburg, moderately eroded	4e	60.00	450.00	3.50	6.50	38.00
Wynott, moderately eroded	4e	60.00	---	3.00	5.50	40.00
PaB:						
Pacolet, bouldery	6s	---	---	---	8.00	---
PaD:						
Pacolet, bouldery	6s	---	---	---	8.00	---

Table 5.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grass hay	Pasture	Wheat
		Bu	Lbs	Tons	AUM	Bu
PcD2:						
Pacolet, moderately eroded	4e	70.00	700.00	4.00	8.00	40.00
PcE2:						
Pacolet, moderately eroded	6e	---	---	---	8.00	---
PfD2:						
Pacolet, moderately eroded	4e	65.00	650.00	3.50	7.50	40.00
Cataula, moderately eroded	4e	70.00	700.00	3.50	6.50	35.00
Pq.						
Pits, quarries						
PrD:						
Prosperity	4e	70.00	575.00	3.50	5.80	30.00
Helena	4e	70.00	650.00	3.20	6.00	40.00
Bush River	4e	70.00	575.00	3.50	5.80	30.00
Ro.						
Rock outcrop						
SgB:						
Sedgefield	2e	70.00	500.00	3.30	5.50	30.00
Crawfordville	2e	65.00	---	3.00	4.00	24.00
SgD:						
Sedgefield	4e	65.00	500.00	3.30	5.50	30.00
Crawfordville	4e	60.00	---	2.50	3.00	24.00
W.						
Water						
WeA:						
Wehadkee, frequently flooded	6w	---	---	---	8.50	---
WfB:						
Wickham	2e	110.00	750.00	5.50	8.50	55.00
WkB:						
Wickham, rarely flooded	2e	110.00	750.00	5.50	8.50	55.00

Table 6.—Prime and Other Important Farmlands

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in the "Farmland classification" column)

Map symbol	Map unit name	Farmland classification
AkB	Altavista sandy loam, 2 to 6 percent slopes, rarely flooded	All areas are prime farmland
CeB2	Cecil gravelly sandy loam, 2 to 6 percent slopes, moderately eroded	All areas are prime farmland
GeB2	Georgeville gravelly very fine sandy loam, 2 to 6 percent slopes, moderately eroded	All areas are prime farmland
HaB	Hard Labor-Appling complex, 2 to 6 percent slopes	All areas are prime farmland
HcB	Hard Labor-Cecil complex, 2 to 6 percent slopes	All areas are prime farmland
HeB	Helena loamy coarse sand, 2 to 6 percent slopes	All areas are prime farmland
LdB2	Lloyd gravelly loam, 2 to 6 percent slopes, moderately eroded	All areas are prime farmland
WfB	Wickham sandy loam, 2 to 6 percent slopes	All areas are prime farmland
WkB	Wickham sandy loam, 2 to 6 percent slopes, rarely flooded	All areas are prime farmland
CeC2	Cecil gravelly sandy loam, 6 to 10 percent slopes, moderately eroded	Farmland of statewide importance
ChA	Chewacla silt loam, 0 to 2 percent slopes, frequently flooded	Farmland of statewide importance
COA	Chewacla and Congaree soils, 0 to 2 percent slopes, frequently flooded	Farmland of statewide importance
HaC	Hard Labor-Appling complex, 6 to 10 percent slopes	Farmland of statewide importance
HdC2	Hard Labor-Cecil complex, 6 to 10 percent slopes, moderately eroded	Farmland of statewide importance
HnC	Helena loamy sand, 6 to 10 percent slopes	Farmland of statewide importance
MeB2	Mecklenburg-Sedgefield complex, 2 to 6 percent slopes, moderately eroded	Farmland of statewide importance
SgB	Sedgefield-Crawfordville complex, 2 to 6 percent slopes	Farmland of statewide importance

Table 7.—Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
AkB:				
Altavista, rarely flooded	loblolly pine	91	129	loblolly pine, white oak, yellow-poplar
	white oak	77	57	
	sweetgum	97	128	
	red maple	---	---	
	yellow-poplar	97	102	
	water oak	80	72	
CaD:				
Cataula, very bouldery	loblolly pine	80	114	loblolly pine, shortleaf pine, white oak, yellow-poplar
	shortleaf pine	66	100	
	southern red oak	84	57	
	sweetgum	85	86	
	white oak	81	57	
	yellow-poplar	88	86	
CcD2:				
Cataula, moderately eroded	loblolly pine	83	116	shortleaf pine, loblolly pine, yellow-poplar, southern red oak, white oak
	yellow-poplar	84	79	
	sweetgum	93	116	
	white oak	82	64	
	southern red oak	81	63	
	shortleaf pine	66	100	
Cecil, moderately eroded	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	
CeB2:				
Cecil, moderately eroded	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	
CeC2:				
Cecil, moderately eroded	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	
CfE3:				
Cecil, severely eroded	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	
Cataula, severely eroded	loblolly pine	83	116	shortleaf pine, loblolly pine, yellow-poplar, southern red oak, white oak
	yellow-poplar	84	79	
	sweetgum	93	116	
	white oak	82	64	
	southern red oak	81	63	
	shortleaf pine	66	100	
ChA:				
Chewacla, frequently flooded	yellow-poplar	95	100	loblolly pine, yellow-poplar
	loblolly pine	95	143	
	sweetgum	97	129	
	water oak	80	72	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
COA:				
Chewacla, frequently flooded	yellow-poplar	95	100	loblolly pine, yellow-poplar
	loblolly pine	95	143	
	sweetgum	97	129	
	water oak	80	72	
Congaree, frequently flooded	cherrybark oak	107	172	cherrybark oak, eastern cottonwood, loblolly pine, yellow-poplar
	eastern cottonwood	107	143	
	sweetgum	100	143	
	loblolly pine	90	129	
	yellow-poplar	107	114	
GeB2:				
Georgeville, moderately eroded	loblolly pine	81	114	loblolly pine, white oak
	scarlet oak	70	57	
	southern red oak	67	43	
	white oak	69	57	
GeD2:				
Georgeville, moderately eroded	loblolly pine	81	114	loblolly pine, white oak
	scarlet oak	70	57	
	southern red oak	67	43	
	white oak	69	57	
HaB:				
Hard Labor	loblolly pine	88	129	loblolly pine, white oak, yellow-poplar
	yellow-poplar	88	86	
	white oak	64	43	
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine, white oak, yellow-poplar
	scarlet oak	74	57	
	shortleaf pine	65	100	
	white oak	64	43	
	yellow-poplar	88	86	
HaC:				
Hard Labor	loblolly pine	88	129	loblolly pine, white oak, yellow-poplar
	yellow-poplar	88	86	
	white oak	64	43	
Appling	loblolly pine	84	114	loblolly pine, shortleaf pine, yellow-poplar
	scarlet oak	74	57	
	shortleaf pine	65	100	
	white oak	64	43	
	yellow-poplar	88	86	
HcB:				
Hard Labor	loblolly pine	88	129	loblolly pine, yellow-poplar, white oak
	yellow-poplar	88	86	
	white oak	64	43	
Cecil	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
HdC2:				
Hard Labor, moderately eroded	loblolly pine	88	129	loblolly pine, yellow-poplar
	yellow-poplar	88	86	
	white oak	64	43	
Cecil, moderately eroded	loblolly pine	83	114	loblolly pine, yellow-poplar
	white oak	79	57	
	southern red oak	79	57	
	yellow-poplar	92	86	
HeB:				
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	white oak	64	43	
	yellow-poplar	88	86	
HnC:				
Helena	loblolly pine	84	114	loblolly pine, yellow-poplar
	yellow-poplar	88	86	
	white oak	64	43	
LdB2:				
Lloyd, moderately eroded	shortleaf pine	68	100	loblolly pine, shortleaf pine, yellow-poplar
	loblolly pine	85	114	
	southern red oak	80	57	
	white oak	80	57	
	yellow-poplar	85	86	
LdD2:				
Lloyd, moderately eroded	shortleaf pine	68	100	loblolly pine, shortleaf pine, yellow-poplar
	loblolly pine	85	114	
	southern red oak	80	57	
	white oak	80	57	
	yellow-poplar	85	86	
LdE2:				
Lloyd, moderately eroded	shortleaf pine	68	100	loblolly pine, shortleaf pine, yellow-poplar
	loblolly pine	85	114	
	southern red oak	80	57	
	white oak	80	57	
	yellow-poplar	85	86	
LfB3:				
Lloyd, severely eroded	loblolly pine	71	100	yellow-poplar, loblolly pine, shortleaf pine
	shortleaf pine	68	100	
	southern red oak	80	57	
	yellow-poplar	85	86	
M-W.				
Miscellaneous water				
MbD:				
Mecklenburg	loblolly pine	79	114	loblolly pine, shortleaf pine, yellow-poplar
	yellow-poplar	97	100	
	shortleaf pine	64	100	
	white oak	64	43	
Crawfordville	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
	Virginia pine	70	114	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
McE2:				
Mecklenburg, moderately eroded	shortleaf pine	64	100	loblolly pine,
	loblolly pine	79	114	shortleaf pine,
	yellow-poplar	97	100	yellow-poplar
	white oak	64	43	
Prosperity, moderately eroded	loblolly pine	84	114	loblolly pine,
	shortleaf pine	66	100	shortleaf pine
	white oak	72	54	
	southern red oak	72	54	
Helena, moderately eroded	loblolly pine	84	114	loblolly pine,
	yellow-poplar	88	86	yellow-poplar
	white oak	64	43	
MeB2:				
Mecklenburg, moderately eroded	loblolly pine	79	114	loblolly pine,
	yellow-poplar	97	100	shortleaf pine,
	shortleaf pine	64	100	yellow-poplar
	white oak	64	43	
Sedgefield, moderately eroded	loblolly pine	80	114	loblolly pine
	sweetgum	---	---	
	yellow-poplar	---	---	
	white oak	65	48	
MkD2:				
Mecklenburg, moderately eroded	shortleaf pine	64	100	loblolly pine,
	loblolly pine	79	114	shortleaf pine,
	yellow-poplar	97	100	yellow-poplar
	white oak	64	43	
Wynott, moderately eroded	loblolly pine	75	100	loblolly pine,
	shortleaf pine	65	100	shortleaf pine
	southern red oak	---	---	
	white oak	---	---	
	yellow-poplar	---	---	
PaB:				
Pacolet, bouldery	loblolly pine	78	114	yellow-poplar,
	shortleaf pine	70	114	loblolly pine,
	white oak	---	---	shortleaf pine
	yellow-poplar	90	90	
PaD:				
Pacolet, bouldery	loblolly pine	78	114	yellow-poplar,
	shortleaf pine	70	114	loblolly pine,
	white oak	---	---	shortleaf pine
	yellow-poplar	90	90	
PcD2:				
Pacolet, moderately eroded	loblolly pine	78	114	yellow-poplar,
	shortleaf pine	70	114	loblolly pine,
	white oak	---	---	shortleaf pine
	yellow-poplar	90	90	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
PcE2:				
Pacolet, moderately eroded	loblolly pine	78	114	yellow-poplar, loblolly pine, shortleaf pine
	shortleaf pine	70	114	
	white oak	---	---	
	yellow-poplar	90	90	
PfD2:				
Pacolet, moderately eroded	loblolly pine	78	114	yellow-poplar, loblolly pine, shortleaf pine
	shortleaf pine	70	114	
	yellow-poplar	90	90	
Cataula, moderately eroded	loblolly pine	83	116	loblolly pine, yellow-poplar, southern red oak, white oak
	yellow-poplar	84	79	
	sweetgum	93	116	
	white oak	82	64	
	southern red oak	81	63	
	shortleaf pine	66	100	
Pq.				
Pits, quarries				
PrD:				
Prosperity	loblolly pine	84	114	loblolly pine, shortleaf pine
	shortleaf pine	66	100	
	white oak	72	54	
	southern red oak	72	54	
Helena	loblolly pine	88	129	loblolly pine, yellow-poplar
	yellow-poplar	88	86	
	white oak	64	43	
Bush River	loblolly pine	84	114	loblolly pine, shortleaf pine
	shortleaf pine	66	100	
	white oak	72	54	
	southern red oak	72	54	
Ro.				
Rock outcrop				
SgB:				
Sedgefield	loblolly pine	80	114	loblolly pine
	sweetgum	---	---	
	yellow-poplar	---	---	
	white oak	65	48	
Crawfordville	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	
SgD:				
Sedgefield	loblolly pine	80	114	loblolly pine, white oak, yellow-poplar
	sweetgum	---	---	
	yellow-poplar	---	---	
	white oak	65	48	
Crawfordville	loblolly pine	70	86	loblolly pine, shortleaf pine
	shortleaf pine	60	86	
	southern red oak	60	43	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
W.				
Water				
WeA:				
Wehadkee, frequently flooded	yellow-poplar	100	114	green ash,
	sweetgum	97	128	sweetgum, willow
	willow oak	94	91	oak, yellow-poplar
	water oak	94	91	
	green ash	89	64	
	river birch	---	---	
	blackgum	---	---	
	black willow	---	---	
WfB:				
Wickham	loblolly pine	90	129	loblolly pine,
	shortleaf pine	---	---	white oak, yellow-
	southern red oak	82	57	poplar
	white oak	84	72	
	yellow-poplar	89	86	
WkB:				
Wickham, rarely flooded	loblolly pine	90	129	loblolly pine,
	shortleaf pine	---	---	white oak, yellow-
	southern red oak	82	57	poplar
	white oak	84	72	
	yellow-poplar	89	86	

Table 8.—Forestland Management, Part I (Hazard of Erosion and Suitablility for Roads)

(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 erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:				
Altavista, rarely flooded	Moderate		Well suited	
	Slope/erodibility	0.50		
CaD:				
Cataula, very bouldery	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Rock fragments	0.50
CcD2:				
Cataula, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
Cecil, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
CeB2:				
Cecil, moderately eroded	Slight		Well suited	
CeC2:				
Cecil, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
CfE3:				
Cecil, severely eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
			Low strength	0.50
Cataula, severely eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
ChA:				
Chewacla, frequently flooded-	Slight		Poorly suited	
			Flooding	1.00
			Wetness	0.50
			Low strength	0.50
COA:				
Chewacla, frequently flooded-	Slight		Poorly suited	
			Flooding	1.00
			Wetness	0.50
Congaree, frequently flooded-	Slight		Poorly suited	
			Flooding	1.00

Table 8.—Forestland Management, Part I (Hazard of Erosion and Suitablility for Roads)—Continued

Map symbol and soil name	Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GeB2:				
Georgeville, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Low strength	0.50
GeD2:				
Georgeville, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Low strength	0.50
HaB:				
Hard Labor	Slight		Well suited	
Appling	Slight		Well suited	
HaC:				
Hard Labor	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
Appling	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
HcB:				
Hard Labor	Moderate		Well suited	
	Slope/erodibility	0.50		
Cecil	Moderate		Well suited	
	Slope/erodibility	0.50		
HdC2:				
Hard Labor, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
Cecil, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
HeB:				
Helena	Slight		Well suited	
HnC:				
Helena	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
LdB2:				
Lloyd, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Low strength	0.50
LdD2:				
Lloyd, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Low strength	0.50
LdE2:				
Lloyd, moderately eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
			Low strength	0.50

Table 8.—Forestland Management, Part I (Hazard of Erosion and Suitablility for Roads)—Continued

Map symbol and soil name	Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
LfB3:				
Lloyd, severely eroded	Moderate		Well suited	
	Slope/erodibility	0.50		
M-W:				
Miscellaneous water-	Not rated		Not rated	
MbD:				
Mecklenburg	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Low strength	0.50
Crawfordville	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Wetness	0.50
McE2:				
Mecklenburg, moderately eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
			Low strength	0.50
Prosperity, moderately eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
			Wetness	0.50
Helena, moderately eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
			Wetness	0.50
MeB2:				
Mecklenburg, moderately eroded	Slight		Moderately suited	
			Low strength	0.50
Sedgefield, moderately eroded	Slight		Moderately suited	
			Wetness	0.50
MkD2:				
Mecklenburg, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
			Low strength	0.50
Wynott, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
PaB:				
Pacolet, bouldery	Slight		Well suited	
PaD:				
Pacolet, bouldery	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50

Table 8.—Forestland Management, Part I (Hazard of Erosion and Suitablility for Roads)—Continued

Map symbol and soil name	Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PcD2:				
Pacolet, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
PcE2:				
Pacolet, moderately eroded	Severe		Poorly suited	
	Slope/erodibility	0.95	Slope	1.00
PfD2:				
Pacolet, moderately eroded	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
Cataula, moderately eroded	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Wetness	0.50
Helena	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Wetness	0.50
Bush River	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Wetness	0.50
Ro:				
Rock outcrop	Not rated		Not rated	
SgB:				
Sedgefield	Moderate		Moderately suited	
	Slope/erodibility	0.50	Wetness	0.50
Crawfordville	Moderate		Moderately suited	
	Slope/erodibility	0.50	Wetness	0.50
SgD:				
Sedgefield	Moderate		Moderately suited	
	Slope/erodibility	0.50	Slope	0.50
			Wetness	0.50
Crawfordville	Severe		Moderately suited	
	Slope/erodibility	0.95	Slope	0.50
			Wetness	0.50
W:				
Water	Not rated		Not rated	

Table 8.—Forestland Management, Part I (Hazard of Erosion and Suitablility for Roads)—Continued

Map symbol and soil name	Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WeA:				
Wehadkee, frequently flooded-	Slight		Poorly suited	
			Low strength	1.00
			Flooding	1.00
			Wetness	1.00
WfB:				
Wickham----------	Moderate		Well suited	
	Slope/erodibility	0.50		
WkB:				
Wickham, rarely flooded----------	Moderate		Well suited	
	Slope/erodibility	0.50		

Table 8.—Forestland Management, Part II (Planting)

(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		Suitability for mechanical planting		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:						
Altavista, rarely flooded	Well suited		Well suited		Low	
CaD:						
Cataula, very bouldery	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Slope	0.50		
			Rock fragments	0.50		
CcD2:						
Cataula, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Slope	0.50		
Cecil, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Slope	0.50		
CeB2:						
Cecil, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Rock fragments	0.50		
CeC2:						
Cecil, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Slope	0.50		
			Rock fragments	0.50		
CfE3:						
Cecil, severely eroded	Moderately suited		Poorly suited		Moderate	
	Stickiness; high plasticity index	0.50	Slope	0.75	Available water	0.50
			Stickiness; high plasticity index	0.50		
Cataula, severely eroded	Moderately suited		Poorly suited		Moderate	
	Stickiness; high plasticity index	0.50	Slope	0.75	Available water	0.50
			Stickiness; high plasticity index	0.50		

Table 8.—Forestland Management, Part II (Planting)—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChA:						
Chewacla, frequently flooded-	Well suited		Well suited		High Wetness	1.00
COA:						
Chewacla, frequently flooded-	Well suited		Well suited		High Wetness	1.00
Congaree, frequently flooded-	Well suited		Well suited		Low	
GeB2:						
Georgeville, moderately eroded--	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Rock fragments	0.50 0.50	Low	
GeD2:						
Georgeville, moderately eroded--	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Slope Stickiness; high plasticity index Rock fragments	0.50 0.50 0.50	Low	
HaB:						
Hard Labor----------	Well suited		Moderately suited Rock fragments	0.50	Low	
Appling----------	Well suited		Moderately suited Rock fragments	0.50	Low	
HaC:						
Hard Labor----------	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Low	
Appling----------	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Low	
HcB:						
Hard Labor----------	Well suited		Well suited		Low	
Cecil----------	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Low	
HdC2:						
Hard Labor, moderately eroded--	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	
Cecil, moderately eroded----------	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	

Table 8.—Forestland Management, Part II (Planting)—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeB:						
Helena	Well suited		Well suited		Low	
HnC:						
Helena	Well suited		Moderately suited		Low	
			Slope	0.50		
LdB2:						
Lloyd, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Rock fragments	0.50		
LdD2:						
Lloyd, moderately eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
			Slope	0.50		
			Rock fragments	0.50		
LdE2:						
Lloyd, moderately eroded	Moderately suited		Poorly suited		Moderate	
	Stickiness; high plasticity index	0.50	Slope	0.75	Available water	0.50
			Stickiness; high plasticity index	0.50		
			Rock fragments	0.50		
LfB3:						
Lloyd, severely eroded	Moderately suited		Moderately suited		Low	
	Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50		
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
MbD:						
Mecklenburg	Poorly suited		Poorly suited		Low	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		
Crawfordville	Poorly suited		Poorly suited		High	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Wetness	1.00
			Slope	0.50		
McE2:						
Mecklenburg, moderately eroded	Poorly suited		Poorly suited		Low	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		
Prosperity, moderately eroded	Poorly suited		Poorly suited		Low	
	Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75		
			Slope	0.50		

Table 8.—Forestland Management, Part II (Planting)—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
McE2:						
Helena, moderately eroded	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Low	
MeB2:						
Mecklenburg, moderately eroded	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	Low	
Sedgefield, moderately eroded	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	High Wetness	1.00
MkD2:						
Mecklenburg, moderately eroded	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Low	
Wynott, moderately eroded	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	Low	
PaB:						
Pacolet, bouldery	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index	0.50	Low	
PaD:						
Pacolet, bouldery	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	
PcD2:						
Pacolet, moderately eroded	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	
PcE2:						
Pacolet, moderately eroded	Moderately suited Stickiness; high plasticity index	0.50	Poorly suited Slope Stickiness; high plasticity index	0.75 0.50	Moderate Available water	0.50
PfD2:						
Pacolet, moderately eroded	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	

Table 8.—Forestland Management, Part II (Planting)—Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Potential for seedling mortality	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PfD2:						
Cataula, moderately eroded	Moderately suited Stickiness; high plasticity index	0.50	Moderately suited Stickiness; high plasticity index Slope	0.50 0.50	Low	
Pq:						
Pits, quarries	Not rated		Not rated		Not rated	
PrD:						
Prosperity	Well suited		Moderately suited Slope	0.50	Low	
Helena	Well suited		Moderately suited Slope	0.50	Low	
Bush River	Well suited		Moderately suited Slope	0.50	Low	
Ro:						
Rock outcrop	Not rated		Not rated		Not rated	
SgB:						
Sedgefield	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	High Wetness	1.00
Crawfordville	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index	0.75	High Wetness	1.00
SgD:						
Sedgefield	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	High Wetness	1.00
Crawfordville	Poorly suited Stickiness; high plasticity index	0.75	Poorly suited Stickiness; high plasticity index Slope	0.75 0.50	High Wetness	1.00
W:						
Water	Not rated		Not rated		Not rated	
WeA:						
Wehadkee, frequently flooded	Well suited		Well suited		High Wetness	1.00
WfB:						
Wickham	Well suited		Well suited		Low	
WkB:						
Wickham, rarely flooded	Well suited		Well suited		Low	

Table 8.—Forestland Management, Part III (Harvesting)

(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 use of harvesting equipment		Suitability for log landings	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:				
Altavista, rarely flooded	Well suited		Well suited	
CaD:				
Cataula, very bouldery	Moderately suited		Moderately suited	
	Rock fragments	0.50	Slope	0.50
			Rock fragments	0.50
CcD2:				
Cataula, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
Cecil, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
CeB2:				
Cecil, moderately eroded	Well suited		Well suited	
CeC2:				
Cecil, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
CfE3:				
Cecil, severely eroded	Moderately suited		Poorly suited	
	Low strength	0.50	Slope	1.00
	Slope	0.50	Low strength	0.50
Cataula, severely eroded	Moderately suited		Poorly suited	
	Slope	0.50	Slope	1.00
ChA:				
Chewacla, frequently flooded-	Moderately suited		Poorly suited	
	Low strength	0.50	Flooding	1.00
			Wetness	0.50
			Low strength	0.50
COA:				
Chewacla, frequently flooded-	Well suited		Poorly suited	
			Flooding	1.00
			Wetness	0.50
Congaree, frequently flooded-	Well suited		Poorly suited	
			Flooding	1.00

Table 8.—Forestland Management, Part III (Harvesting)—Continued

Map symbol and soil name	Suitability for use of harvesting equipment		Suitability for log landings	
	Rating class and limiting features	Value	Rating class and limiting features	Value
GeB2:				
Georgeville, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50
GeD2:				
Georgeville, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50
			Low strength	0.50
HaB:				
Hard Labor	Well suited		Well suited	
Appling	Well suited		Well suited	
HaC:				
Hard Labor	Well suited		Moderately suited	
			Slope	0.50
Appling	Well suited		Moderately suited	
			Slope	0.50
HcB:				
Hard Labor	Well suited		Well suited	
Cecil	Well suited		Well suited	
HdC2:				
Hard Labor, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
Cecil, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
HeB:				
Helena	Well suited		Well suited	
HnC:				
Helena	Well suited		Moderately suited	
			Slope	0.50
LdB2:				
Lloyd, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50
LdD2:				
Lloyd, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50
			Low strength	0.50
LdE2:				
Lloyd, moderately eroded	Moderately suited		Poorly suited	
	Low strength	0.50	Slope	1.00
	Slope	0.50	Low strength	0.50

Table 8.—Forestland Management, Part III (Harvesting)—Continued

Map symbol and soil name	Suitability for use of harvesting equipment		Suitability for log landings	
	Rating class and limiting features	Value	Rating class and limiting features	Value
LfB3:				
Lloyd, severely eroded	Well suited		Well suited	
M-W:				
Miscellaneous water-	Not rated		Not rated	
MbD:				
Mecklenburg	Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50
			Low strength	0.50
Crawfordville	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
McE2:				
Mecklenburg, moderately eroded	Moderately suited		Poorly suited	
	Low strength	0.50	Slope	1.00
			Low strength	0.50
Prosperity, moderately eroded	Well suited		Poorly suited	
			Slope	1.00
			Wetness	0.50
Helena, moderately eroded	Well suited		Poorly suited	
			Slope	1.00
			Wetness	0.50
MeB2:				
Mecklenburg, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Low strength	0.50
Sedgefield, moderately eroded	Well suited		Moderately suited	
			Wetness	0.50
MkD2:				
Mecklenburg, moderately eroded	Moderately suited		Moderately suited	
	Low strength	0.50	Slope	0.50
			Low strength	0.50
Wynott, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
PaB:				
Pacolet, bouldery	Well suited		Well suited	
PaD:				
Pacolet, bouldery	Well suited		Moderately suited	
			Slope	0.50
PcD2:				
Pacolet, moderately eroded	Well suited		Moderately suited	
			Slope	0.50

Table 8.—Forestland Management, Part III (Harvesting)—Continued

Map symbol and soil name	Suitability for use of harvesting equipment		Suitability for log landings	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PcE2:				
Pacolet, moderately eroded	Moderately suited		Poorly suited	
	Slope	0.50	Slope	1.00
PfD2:				
Pacolet, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
Cataula, moderately eroded	Well suited		Moderately suited	
			Slope	0.50
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
Helena	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
Bush River	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
Ro:				
Rock outcrop	Not rated		Not rated	
SgB:				
Sedgefield	Well suited		Moderately suited	
			Wetness	0.50
Crawfordville	Well suited		Moderately suited	
			Wetness	0.50
SgD:				
Sedgefield	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
Crawfordville	Well suited		Moderately suited	
			Slope	0.50
			Wetness	0.50
W:				
Water	Not rated		Not rated	
WeA:				
Wehadkee, frequently flooded	Poorly suited		Poorly suited	
	Low strength	1.00	Low strength	1.00
			Flooding	1.00
			Wetness	1.00

Table 8.—Forestland Management, Part III (Harvesting)—Continued

Map symbol and soil name	Suitability for use of harvesting equipment		Suitability for log landings	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WfB:				
Wickham	Well suited		Well suited	
WkB:				
Wickham, rarely flooded	Well suited		Well suited	

Table 9.—Recreational Development, Part I (Camp and Picnic Areas)

(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	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:				
Altavista, rarely flooded	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.39		
CaD:				
Cataula, very bouldery	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Large stones	0.76	Large stones	0.76
	Slope	0.16	Slope	0.16
CcD2:				
Cataula, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Slope	0.16	Slope	0.16
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
CeB2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Gravel	0.99	Gravel	0.99
CeC2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Gravel	0.92	Gravel	0.92
CfE3:				
Cecil, severely eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
Cataula, severely eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96
ChA:				
Chewacla, frequently flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40

Table 9.—Recreational Development, Part I (Camp and Picnic Areas)—Continued

Map symbol and soil name	Camp areas		Picnic areas	
	Rating class and limiting features	Value	Rating class and limiting features	Value
COA:				
Chewacla, frequently flooded-	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
Congaree, frequently flooded-	Very limited		Somewhat limited	
	Flooding	1.00	Flooding	0.40
GeB2:				
Georgeville, moderately eroded--	Not limited		Not limited	
GeD2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
HaB:				
Hard Labor----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15
Appling----------	Not limited		Not limited	
HaC:				
Hard Labor----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15
Appling----------	Not limited		Not limited	
HcB:				
Hard Labor----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
Cecil----------	Not limited		Not limited	
HdC2:				
Hard Labor, moderately eroded--	Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15
Cecil, moderately eroded----------	Not limited		Not limited	
HeB:				
Helena----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
HnC:				
Helena----------	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.39	Depth to saturated zone	0.19

Table 9.—Recreational Development, Part I (Camp and Picnic Areas)—Continued

Map symbol and soil name	Camp areas		Picnic areas	
	Rating class and limiting features	Value	Rating class and limiting features	Value
LdB2:				
Lloyd, moderately eroded	Somewhat limited		Somewhat limited	
	Gravel	0.11	Gravel	0.11
LdD2:				
Lloyd, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.37	Slope	0.37
	Gravel	0.11	Gravel	0.11
LdE2:				
Lloyd, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Gravel	0.11	Gravel	0.11
LfB3:				
Lloyd, severely eroded	Not limited		Not limited	
M-W:				
Miscellaneous water	Not rated		Not rated	
MbD:				
Mecklenburg	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
	Slow water movement	0.15	Slow water movement	0.15
Crawfordville	Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.99
	Slope	0.16	Slope	0.16
McE2:				
Mecklenburg, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.15	Slow water movement	0.15
Prosperity, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.67	Depth to saturated zone	0.35
Helena, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.67	Depth to saturated zone	0.35
MeB2:				
Mecklenburg, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.15	Slow water movement	0.15

Table 9.—Recreational Development, Part I (Camp and Picnic Areas)—Continued

Map symbol and soil name	Camp areas		Picnic areas	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MeB2:				
Sedgefield, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94
MkD2:				
Mecklenburg, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
	Slow water movement	0.15	Slow water movement	0.15
Wynott, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
	Slope	0.16	Slope	0.16
PaB:				
Pacolet, bouldery	Not limited		Not limited	
PaD:				
Pacolet, bouldery	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
PcD2:				
Pacolet, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
PcE2:				
Pacolet, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
PfD2:				
Pacolet, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
Cataula, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Slope	0.16	Slope	0.16
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.67	Depth to saturated zone	0.35
	Slope	0.16	Slope	0.16
Helena	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.67	Depth to saturated zone	0.35
	Slope	0.16	Slope	0.16

Table 9.—Recreational Development, Part I (Camp and Picnic Areas)—Continued

Map symbol and soil name	Camp areas		Picnic areas	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PrD:				
Bush River	Somewhat limited		Somewhat limited	
	Slow water movement	0.94	Slow water movement	0.94
	Depth to saturated zone	0.67	Depth to saturated zone	0.35
	Slope	0.16	Slope	0.16
Ro:				
Rock outcrop	Not rated		Not rated	
SgB:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94
Crawfordville	Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.99
SgD:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94	Slow water movement	0.94
Crawfordville	Very limited		Very limited	
	Depth to saturated zone	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.99
	Slope	0.63	Slope	0.63
W:				
Water	Not rated		Not rated	
WeA:				
Wehadkee, frequently flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
WfB:				
Wickham	Not limited		Not limited	
WkB:				
Wickham, rarely flooded	Very limited		Not limited	
	Flooding	1.00		

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)

(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	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:						
Altavista, rarely flooded	Somewhat limited		Not limited		Somewhat limited	
	Depth to saturated zone	0.39			Depth to saturated zone	0.19
	Slope	0.12				
CaD:						
Cataula, very bouldery	Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Large stones	0.76	Slope	0.16
	Slow water movement	0.96				
	Large stones content	0.76				
CcD2:						
Cataula, moderately eroded	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
	Slow water movement	0.96				
Cecil, moderately eroded	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
CeB2:						
Cecil, moderately eroded	Very limited		Not limited		Somewhat limited	
	Gravel	1.00			Gravel	0.99
	Slope	0.12				
CeC2:						
Cecil, moderately eroded	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Gravel	0.92
	Gravel	1.00				
CfE3:						
Cecil, severely eroded	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.50	Slope	1.00
Cataula, severely eroded	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.50	Slope	1.00
	Slow water movement	0.96				
ChA:						
Chewacla, frequently flooded	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.40	Depth to saturated zone	1.00

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)—Continued

Map symbol and soil name	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
COA:						
Chewacla, frequently flooded-	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.40	Depth to saturated zone	1.00
Congaree, frequently flooded-	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
GeB2:						
Georgeville, moderately eroded--	Somewhat limited		Not limited		Not limited	
	Gravel	0.99				
	Slope	0.12				
GeD2:						
Georgeville, moderately eroded--	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.63
	Gravel	0.99				
HaB:						
Hard Labor----------	Very limited		Not limited		Somewhat limited	
	Gravel	1.00			Gravel	0.03
	Slow water movement	0.15				
	Slope	0.12				
Appling----------	Very limited		Not limited		Not limited	
	Gravel	1.00				
	Slope	0.12				
HaC:						
Hard Labor----------	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Gravel	0.03
	Gravel	1.00				
	Slow water movement	0.15				
Appling----------	Very limited		Not limited		Not limited	
	Slope	1.00				
	Gravel	1.00				
HcB:						
Hard Labor----------	Somewhat limited		Not limited		Not limited	
	Slow water movement	0.94				
	Slope	0.12				
	Gravel	0.08				
Cecil----------	Somewhat limited		Not limited		Not limited	
	Slope	0.12				
HdC2:						
Hard Labor, moderately eroded--	Very limited		Not limited		Not limited	
	Slope	1.00				
	Slow water movement	0.15				
Cecil, moderately eroded----------	Very limited		Not limited		Not limited	
	Slope	1.00				

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)—Continued

Map symbol and soil name	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HeB:						
Helena	Somewhat limited		Not limited		Somewhat limited	
	Slow water movement	0.94			Too sandy	0.50
	Depth to saturated zone	0.39			Depth to saturated zone	0.19
	Slope	0.12				
HnC:						
Helena	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Depth to saturated zone	0.19
	Slow water movement	0.94				
	Depth to saturated zone	0.39				
LdB2:						
Lloyd, moderately eroded	Very limited		Not limited		Somewhat limited	
	Gravel	1.00			Gravel	0.11
	Slope	0.12				
LdD2:						
Lloyd, moderately eroded	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.37
	Gravel	1.00			Gravel	0.11
LdE2:						
Lloyd, moderately eroded	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.50	Slope	1.00
	Gravel	1.00			Gravel	0.11
LfB3:						
Lloyd, severely eroded	Somewhat limited		Not limited		Not limited	
	Slope	0.12				
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
MbD:						
Mecklenburg	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
	Slow water movement	0.15				
Crawfordville	Very limited		Somewhat limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
	Depth to saturated zone	1.00			Slope	0.16
	Slope	1.00			Depth to bedrock	0.01
	Depth to bedrock	0.01				
McE2:						
Mecklenburg, moderately eroded	Very limited		Not limited		Very limited	
	Slope	1.00			Slope	1.00
	Slow water movement	0.15				

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)—Continued

Map symbol and soil name	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
McE2:						
Prosperity, moderately eroded--	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated Zone	0.04	Slope	1.00
	Slow water movement	0.94			Depth to saturated zone	0.35
	Depth to saturated zone	0.67			Depth to bedrock	0.06
	Depth to bedrock	0.06			Droughty	0.01
Helena, moderately eroded----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.04	Slope	1.00
	Slow water movement	0.94			Depth to saturated zone	0.35
	Depth to saturated zone	0.67				
MeB2:						
Mecklenburg, moderately eroded--	Somewhat limited		Not limited		Not limited	
	Slow water movement	0.15				
Sedgefield, moderately eroded--	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94				
MkD2:						
Mecklenburg, moderately eroded--	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
	Slow water movement	0.15				
Wynott, moderately eroded----------	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Depth to bedrock	0.95
	Slow water movement	0.94			Slope	0.16
	Depth to bedrock	0.95			Droughty	0.01
PaB:						
Pacolet, bouldery---	Somewhat limited		Not limited		Not limited	
	Slope	0.12				
PaD:						
Pacolet, bouldery---	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
PcD2:						
Pacolet, moderately eroded----------	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
PcE2:						
Pacolet, moderately eroded----------	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.50	Slope	1.00
PfD2:						
Pacolet, moderately eroded----------	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)—Continued

Map symbol and soil name	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PfD2:						
Cataula, moderately eroded	Very limited		Not limited		Somewhat limited	
	Slope	1.00			Slope	0.16
	Slow water movement	0.96				
Pq:						
Pits, quarries	Not rated		Not rated		Not rated	
PrD:						
Prosperity	Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Depth to saturated zone	0.04	Depth to saturated zone	0.35
	Slow water movement	0.94			Slope	0.16
	Depth to saturated zone	0.67			Depth to bedrock	0.01
	Depth to bedrock	0.01				
Helena	Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Depth to saturated zone	0.04	Depth to saturated zone	0.35
	Slow water movement	0.96			Slope	0.16
	Depth to saturated zone	0.67				
Bush River	Very limited		Somewhat limited		Somewhat limited	
	Slope	1.00	Depth to saturated zone	0.04	Depth to saturated zone	0.35
	Slow water movement	0.94			Slope	0.16
	Depth to saturated zone	0.67				
Ro:						
Rock outcrop	Not rated		Not rated		Not rated	
SgB:						
Sedgefield	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.94				
	Slope	0.12				
Crawfordville	Very limited		Somewhat limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
	Depth to saturated zone	1.00			Depth to bedrock	0.01
	Slope	0.12				
	Depth to bedrock	0.01				
SgD:						
Sedgefield	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slope	1.00				
	Slow water movement	0.94				
Crawfordville	Very limited		Somewhat limited		Somewhat limited	
	Slow water movement	1.00	Depth to saturated zone	0.98	Depth to saturated zone	0.99
	Depth to saturated zone	1.00			Slope	0.63
	Slope	1.00			Depth to bedrock	0.01
	Depth to bedrock	0.01				

Table 9.—Recreational Development, Part II (Playgrounds, Paths and Trails, and Golf Fairways)—Continued

Map symbol and soil name	Playgrounds		Paths and trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:						
Water	Not rated		Not rated		Not rated	
WeA:						
Wehadkee, frequently flooded	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.40	Depth to saturated zone	1.00
WfB:						
Wickham	Somewhat limited		Not limited		Not limited	
	Slope	0.12				
WkB:						
Wickham, rarely flooded	Somewhat limited		Not limited		Not limited	
	Slope	0.12				

Table 10.—Building Site Development, Part I (Dwellings and Lawns and Landscaping)

(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		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:						
Altavista, rarely flooded	Very limited		Very limited		Somewhat limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.39	Depth to saturated zone	1.00		
CaD:						
Cataula, very bouldery	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.16	Depth to saturated zone	1.00	Slope	0.16
			Slope	0.16		
CcD2:						
Cataula, moderately eroded	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.16	Depth to saturated zone	1.00	Slope	0.16
			Slope	0.16		
Cecil, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16
CeB2:						
Cecil, moderately eroded	Not limited		Not limited		Somewhat limited	
					Gravel	0.99
CeC2:						
Cecil, moderately eroded	Not limited		Not limited		Somewhat limited	
					Gravel	0.92
CfE3:						
Cecil, severely eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Cataula, severely eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00	Slope	1.00
			Slope	1.00		
ChA:						
Chewacla, frequently flooded	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 10.—Building Site Development, Part I (Dwellings and Lawns and Landscaping)—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
COA:						
Chewacla, frequently flooded-	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
Congaree, frequently flooded-	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.73		
GeB2:						
Georgeville, moderately eroded--	Not limited		Not limited		Not limited	
GeD2:						
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63	Slope	0.63
HaB:						
Hard Labor----------	Not limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.99	Gravel	0.03
Appling----------	Not limited		Not limited		Not limited	
HaC:						
Hard Labor----------	Not limited		Somewhat limited		Somewhat limited	
			Depth to saturated zone	0.99	Gravel	0.03
Appling----------	Not limited		Not limited		Not limited	
HcB:						
Hard Labor----------	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.99		
Cecil----------	Not limited		Not limited		Not limited	
HdC2:						
Hard Labor, moderately eroded--	Not limited		Somewhat limited		Not limited	
			Depth to saturated zone	0.99		
Cecil, moderately eroded----------	Not limited		Not limited		Not limited	
HeB:						
Helena----------	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Too sandy	0.50
	Depth to saturated zone	0.39	Shrink-swell	0.98	Depth to saturated zone	0.19
HnC:						
Helena----------	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.39	Shrink-swell	1.00		

Table 10.—Building Site Development, Part I (Dwellings and Lawns and Landscaping)—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LdB2:						
Lloyd, moderately eroded	Not limited		Not limited		Somewhat limited	
					Gravel	0.11
LdD2:						
Lloyd, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.37	Slope	0.37	Slope	0.37
					Gravel	0.11
LdE2:						
Lloyd, moderately eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Gravel	0.11
LfB3:						
Lloyd, severely eroded	Not limited		Not limited		Not limited	
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
MbD:						
Mecklenburg	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.16	Slope	0.16
	Slope	0.16	Shrink-swell	0.03		
Crawfordville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	0.16
	Slope	0.16	Slope	0.16	Depth to bedrock	0.01
McE2:						
Mecklenburg, moderately eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.13		
Prosperity, moderately eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
	Depth to saturated zone	0.67	Shrink-swell	1.00	Depth to bedrock	0.06
Helena, moderately eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
	Depth to saturated zone	0.67	Shrink-swell	0.99		
MeB2:						
Mecklenburg, moderately eroded	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Shrink-swell	0.20		

Table 10.—Building Site Development, Part I (Dwellings and Lawns and Landscaping)—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MeB2:						
Sedgefield, moderately eroded	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	0.69		
MkD2:						
Mecklenburg, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Slope	0.16	Slope	0.16
	Slope	0.16	Shrink-swell	0.13		
Wynott, moderately eroded	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to bedrock	0.95
	Slope	0.16	Depth to soft bedrock	0.95	Slope	0.16
					Droughty	0.01
			Slope	0.16		
PaB:						
Pacolet, bouldery	Not limited		Not limited		Not limited	
PaD:						
Pacolet, bouldery	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16
PcD2:						
Pacolet, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16
PcE2:						
Pacolet, moderately eroded	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
PfD2:						
Pacolet, moderately eroded	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16	Slope	0.16
Cataula, moderately eroded	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.16	Depth to saturated zone	1.00	Slope	0.16
			Slope	0.16		
Pq:						
Pits, quarries	Not rated		Not rated		Not rated	
PrD:						
Prosperity	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
	Depth to saturated zone	0.67	Shrink-swell	0.83	Slope	0.16
	Slope	0.16	Slope	0.16	Depth to bedrock	0.01
Helena	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
	Depth to saturated zone	0.67	Slope	0.16	Slope	0.16
	Slope	0.16	Shrink-swell	0.03		

Table 10.—Building Site Development, Part I (Dwellings and Lawns and Landscaping)—Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PrD:						
Bush River	Very limited		Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.35
	Depth to saturated zone	0.67	Slope	0.16	Slope	0.16
	Slope	0.16	Shrink-swell	0.06		
Ro:						
Rock outcrop	Not rated		Not rated		Not rated	
SgB:						
Sedgefield	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	0.80		
Crawfordville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	1.00	Shrink-swell	1.00	Depth to bedrock	0.01
			Depth to soft bedrock	0.01		
SgD:						
Sedgefield	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Shrink-swell	0.80		
Crawfordville	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	1.00	Shrink-swell	1.00	Slope	0.63
	Slope	0.63	Slope	0.63	Depth to bedrock	0.01
W:						
Water	Not rated		Not rated		Not rated	
WeA:						
Wehadkee, frequently flooded	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
WfB:						
Wickham	Not limited		Not limited		Not limited	
WkB:						
Wickham, rarely flooded	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)

(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	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:				
Altavista, rarely flooded	Somewhat limited		Very limited	
	Flooding	0.40	Depth to saturated zone	1.00
	Depth to saturated zone	0.19	Unstable excavation walls	0.10
CaD:				
Cataula, very bouldery	Somewhat limited		Very limited	
	Low strength	0.50	Depth to saturated zone	1.00
	Slope	0.16	Slope	0.16
			Too clayey	0.12
			Unstable excavation walls	0.10
CcD2:				
Cataula, moderately eroded	Somewhat limited		Very limited	
	Slope	0.16	Depth to saturated zone	1.00
			Dense layer	0.50
			Slope	0.16
			Unstable excavation walls	0.10
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.16
	Slope	0.16	Too clayey	0.12
			Unstable excavation walls	0.10
CeB2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.32
			Unstable excavation walls	0.10
CeC2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.32
			Unstable excavation walls	0.10

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CfE3:				
Cecil, severely eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low strength	0.50	Too clayey	0.32
			Unstable excavation walls	0.10
Cataula, severely eroded	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	1.00
	Low strength	0.50	Slope	1.00
			Dense layer	0.50
			Too clayey	0.12
			Unstable excavation walls	0.10
ChA:				
Chewacla, frequently flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80
	Low strength	1.00	Unstable excavation walls	0.10
COA:				
Chewacla, frequently flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80
	Low strength	1.00	Unstable excavation walls	0.10
Congaree, frequently flooded	Very limited		Somewhat limited	
	Flooding	1.00	Flooding	0.80
			Depth to saturated zone	0.73
			Unstable excavation walls	0.10
GeB2:				
Georgeville, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Unstable excavation walls	0.10
GeD2:				
Georgeville, moderately eroded	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
	Low strength	0.50	Unstable excavation walls	0.10

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HaB:				
Hard Labor	Somewhat limited		Somewhat limited	
	Low strength	0.50	Depth to saturated zone	0.99
			Too clayey	0.28
			Unstable excavation walls	0.10
Appling	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.28
			Unstable excavation walls	0.10
HaC:				
Hard Labor	Somewhat limited		Somewhat limited	
	Low strength	0.50	Depth to saturated zone	0.99
			Too clayey	0.28
			Unstable excavation walls	0.10
Appling	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.28
			Unstable excavation walls	0.10
HcB:				
Hard Labor	Somewhat limited		Somewhat limited	
	Low strength	0.50	Depth to saturated zone	0.99
			Too clayey	0.28
			Unstable excavation walls	0.10
Cecil	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.32
			Unstable excavation walls	0.10
HdC2:				
Hard Labor, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Depth to saturated zone	0.99
			Too clayey	0.28
			Unstable excavation walls	0.10
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.12
			Unstable excavation walls	0.10
HeB:				
Helena	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Unstable excavation walls	0.10
	Depth to saturated zone	0.19	Too clayey	0.02

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HnC:				
Helena	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Unstable excavation walls	0.10
	Depth to saturated zone	0.19	Too clayey	0.02
LdB2:				
Lloyd, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Too clayey	0.12
			Unstable excavation walls	0.10
LdD2:				
Lloyd, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.37
	Slope	0.37	Too clayey	0.12
			Unstable excavation walls	0.10
LdE2:				
Lloyd, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low strength	0.50	Too clayey	0.12
			Unstable excavation walls	0.10
LfB3:				
Lloyd, severely eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Unstable excavation walls	0.10
			Too clayey	0.06
M-W:				
Miscellaneous water	Not rated		Not rated	
MbD:				
Mecklenburg	Very limited		Somewhat limited	
	Low strength	1.00	Slope	0.16
	Shrink-swell	0.50	Too clayey	0.12
	Slope	0.16	Unstable excavation walls	0.10
Crawfordville	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.88
	Depth to saturated zone	0.99	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
			Depth to soft bedrock	0.01

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
McE2:				
Mecklenburg, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low strength	1.00	Too clayey	0.12
	Shrink-swell	0.50	Unstable excavation walls	0.10
Prosperity, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.18
	Depth to saturated zone	0.35	Unstable excavation walls	0.10
			Depth to soft bedrock	0.06
Helena, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.12
	Depth to saturated zone	0.35	Unstable excavation walls	0.10
MeB2:				
Mecklenburg, moderately eroded	Very limited		Somewhat limited	
	Low strength	1.00	Too clayey	0.12
	Shrink-swell	0.50	Unstable excavation walls	0.10
Sedgefield, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Too clayey	0.28
	Low strength	1.00	Unstable excavation walls	0.10
MkD2:				
Mecklenburg, moderately eroded	Very limited		Somewhat limited	
	Low strength	1.00	Slope	0.16
	Shrink-swell	0.50	Too clayey	0.12
	Slope	0.16	Unstable excavation walls	0.10
Wynott, moderately eroded	Very limited		Somewhat limited	
	Shrink-swell	1.00	Depth to soft bedrock	0.95
	Low strength	1.00	Too clayey	0.50
	Slope	0.16	Slope	0.16
			Unstable excavation walls	0.10

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PaB:				
Pacolet, bouldery	Somewhat limited		Somewhat limited	
	Low strength	0.50	Unstable excavation walls	0.10
PaD:				
Pacolet, bouldery	Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
PcD2:				
Pacolet, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
PcE2:				
Pacolet, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Low strength	0.50	Unstable excavation walls	0.10
PfD2:				
Pacolet, moderately eroded	Somewhat limited		Somewhat limited	
	Low strength	0.50	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
Cataula, moderately eroded	Somewhat limited		Very limited	
	Low strength	0.50	Depth to saturated zone	1.00
	Slope	0.16	Dense layer	0.50
			Slope	0.16
			Unstable excavation walls	0.10
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.18
	Depth to saturated zone	0.35	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
			Depth to soft bedrock	0.01
Helena	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Slope	0.16
	Depth to saturated zone	0.35	Too clayey	0.12
	Slope	0.16	Unstable excavation walls	0.10

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PrD:				
Bush River	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.18
	Depth to saturated zone	0.35	Slope	0.16
	Slope	0.16	Unstable excavation walls	0.10
Ro:				
Rock outcrop	Not rated		Not rated	
SgB:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Too clayey	0.28
	Low strength	1.00	Unstable excavation walls	0.10
Crawfordville	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.88
	Depth to saturated zone	0.99	Unstable excavation walls	0.10
			Depth to soft bedrock	0.01
SgD:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Shrink-swell	1.00	Too clayey	0.28
	Low strength	1.00	Unstable excavation walls	0.10
Crawfordville	Very limited		Very limited	
	Shrink-swell	1.00	Depth to saturated zone	1.00
	Low strength	1.00	Too clayey	0.88
	Depth to saturated zone	0.99	Slope	0.63
	Slope	0.63	Unstable excavation walls	0.10
			Depth to soft bedrock	0.01
W:				
Water	Not rated		Not rated	
WeA:				
Wehadkee, frequently flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Unstable excavation walls	1.00
	Low strength	1.00	Flooding	0.80

Table 10.—Building Site Development, Part II (Roads and Streets and Shallow Excavations)—Continued

Map symbol and soil name	Local roads and streets		Shallow excavations	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WfB:				
Wickham	Not limited		Somewhat limited	
			Unstable excavation walls	0.10
WkB:				
Wickham, rarely flooded	Somewhat limited		Very limited	
	Flooding	0.40	Unstable excavation walls	1.00

Table 11.—Sewage Disposal

(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
AkB:				
Altavista, rarely flooded	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Slow water movement	0.50	Flooding	0.40
	Flooding	0.40	Slope	0.08
CaD:				
Cataula, very bouldery	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.12
	Slope	0.16		
CcD2:				
Cataula, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.12
	Slope	0.16		
Cecil, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.16	Seepage	0.53
CeB2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
CeC2:				
Cecil, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.50
CfE3:				
Cecil, severely eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
Cataula, severely eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.12
	Slope	1.00		

Table 11.—Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
ChA:				
Chewacla, frequently flooded-	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	0.50	Depth to saturated zone	1.00
COA:				
Chewacla, frequently flooded-	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	0.50	Depth to saturated zone	1.00
Congaree, frequently flooded-	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	0.92
	Slow water movement	0.50	Seepage	0.50
GeB2:				
Georgeville, moderately eroded--	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
GeD2:				
Georgeville, moderately eroded--	Somewhat limited		Very limited	
	Slope	0.63	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
HaB:				
Hard Labor----------	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.50
	Slow water movement	1.00	Slope	0.08
			Depth to saturated zone	0.08
Appling----------	Somewhat limited		Very limited	
	Slow water movement	0.50	Seepage	1.00
			Slope	0.08
HaC:				
Hard Labor----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Seepage	0.50
			Depth to saturated zone	0.08
Appling----------	Somewhat limited		Very limited	
	Slow water movement	0.50	Seepage	1.00
			Slope	1.00
HcB:				
Hard Labor----------	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.50
	Slow water movement	1.00	Slope	0.08
			Depth to saturated zone	0.08

Table 11.—Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HcB:				
Cecil	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
HdC2:				
Hard Labor, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.08
Cecil, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
			Seepage	0.53
HeB:				
Helena	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Slow water movement	1.00	Seepage	0.50
			Slope	0.08
HnC:				
Helena	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.75
			Seepage	0.50
LdB2:				
Lloyd, moderately eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
LdD2:				
Lloyd, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.37	Seepage	0.50
LdE2:				
Lloyd, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.50
LfB3:				
Lloyd, severely eroded	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
M-W:				
Miscellaneous water	Not rated		Not rated	

Table 11.—Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MbD:				
Mecklenburg	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.16		
Crawfordville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	1.00
	Slope	0.16		
McE2:				
Mecklenburg, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	1.00	Seepage	0.53
Prosperity, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.88
	Slope	1.00		
Helena, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.99
	Slope	1.00	Seepage	0.50
MeB2:				
Mecklenburg, moderately eroded	Very limited		Not limited	
	Slow water movement	1.00		
Sedgefield, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
MkD2:				
Mecklenburg, moderately eroded	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	0.16	Seepage	0.53
Wynott, moderately eroded	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Slope	0.16	Slope	1.00
PaB:				
Pacolet, bouldery	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.53
			Slope	0.08

Table 11.—Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
PaD:				
Pacolet, bouldery	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.16	Seepage	0.53
PcD2:				
Pacolet, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.16	Seepage	0.53
PcE2:				
Pacolet, moderately eroded	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.50	Seepage	0.53
PfD2:				
Pacolet, moderately eroded	Somewhat limited		Very limited	
	Slow water movement	0.50	Slope	1.00
	Slope	0.16	Seepage	0.53
Cataula, moderately eroded	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.12
	Slope	0.16		
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.88
	Slope	0.16	Seepage	0.50
Helena	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Slow water movement	1.00	Slope	1.00
	Slope	0.16	Depth to saturated zone	0.88
Bush River	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slow water movement	1.00	Depth to saturated zone	0.88
	Depth to bedrock	0.50	Seepage	0.50
	Slope	0.16	Depth to soft bedrock	0.08
Ro:				
Rock outcrop	Not rated		Not rated	

Table 11.—Sewage Disposal—Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
SgB:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.08
Crawfordville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	0.08
SgD:				
Sedgefield	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
Crawfordville	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to soft bedrock	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slope	1.00
	Slope	0.63		
W:				
Water	Not rated		Not rated	
WeA:				
Wehadkee, frequently flooded	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Organic matter content	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Depth to saturated zone	1.00
WfB:				
Wickham	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
			Slope	0.08
WkB:				
Wickham, rarely flooded	Somewhat limited		Somewhat limited	
	Slow water movement	0.50	Seepage	0.50
	Flooding	0.40	Flooding	0.40
			Slope	0.08

Table 12.—Source of Sand, Roadfill, and Topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. For potential source of sand, 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. For potential sources of roadfill and topsoil, 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	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:						
Altavista, rarely flooded	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness	0.53	Wetness	0.53
	Bottom layer	0.00			Too acid	0.88
CaD:						
Cataula, very bouldery	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.93	Slope	0.84
					Wetness	0.93
CcD2:						
Cataula, moderately eroded	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness	0.93	Too clayey	0.32
	Bottom layer	0.00			Slope	0.84
					Wetness	0.93
Cecil, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
					Too acid	0.88
CeB2:						
Cecil, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
CeC2:						
Cecil, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
CfE3:						
Cecil, severely eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Slope	0.50	Slope	0.00
					Too acid	0.88
Cataula, severely eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Slope	0.50	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.50	Slope	0.00
			Wetness	0.93	Wetness	0.93

Table 12.—Source of Sand, Roadfill, and Topsoil—Continued

Map symbol and soil name	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChA:						
Chewacla, frequently flooded-	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Wetness	0.00
	Bottom layer	0.00	Low strength	0.00		
COA:						
Chewacla, frequently flooded-	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Wetness	0.00
	Bottom layer	0.00			Too clayey	0.00
Congaree, frequently flooded-	Poor		Poor		Fair	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.32
	Bottom layer	0.00				
GeB2:						
Georgeville, moderately eroded--	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
GeD2:						
Georgeville, moderately eroded--	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Slope	0.37
					Too acid	0.88
HaB:						
Hard Labor----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.96	Wetness	0.96
					Too acid	0.95
Appling----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
HaC:						
Hard Labor----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.96	Wetness	0.96
					Too acid	0.95
Appling----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
HcB:						
Hard Labor----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.96	Wetness	0.96
					Too acid	0.95
Cecil----------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88

Table 12.—Source of Sand, Roadfill, and Topsoil—Continued

Map symbol and soil name	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HdC2:						
Hard Labor, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.96	Wetness	0.96
					Too acid	0.95
Cecil, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Too acid	0.88
HeB:						
Helena	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.53	Too acid	0.50
			Shrink-swell	0.58	Wetness	0.53
HnC:						
Helena	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.42	Too acid	0.50
			Wetness	0.53	Wetness	0.53
LdB2:						
Lloyd, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00				
LdD2:						
Lloyd, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Slope	0.63
LdE2:						
Lloyd, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00	Low strength	0.50	Too clayey	0.00
LfB3:						
Lloyd, severely eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00				
M-W:						
Miscellaneous water	Not rated		Not rated		Not rated	
MbD:						
Mecklenburg	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.99	Slope	0.84
Crawfordville	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.01
			Wetness	0.01	Slope	0.84

Table 12.—Source of Sand, Roadfill, and Topsoil—Continued

Map symbol and soil name	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
McE2:						
Mecklenburg, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.97	Slope	0.00
Prosperity, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Slope	0.00
			Shrink-swell	0.17	Wetness	0.38
Helena, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Slope	0.00
	Bottom layer	0.00	Wetness	0.38	Too clayey	0.00
			Shrink-swell	0.57	Wetness	0.38
MeB2:						
Mecklenburg, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.95		
Sedgefield, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.00
			Shrink-swell	0.82		
MkD2:						
Mecklenburg, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.97	Slope	0.84
Wynott, moderately eroded	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Depth to bedrock	0.05
			Shrink-swell	0.12	Slope	0.84
PaB:						
Pacolet, bouldery	Poor		Good		Poor	
	Thickest layer	0.00			Too clayey	0.00
	Bottom layer	0.00			Too acid	0.92
PaD:						
Pacolet, bouldery	Poor		Good		Poor	
	Thickest layer	0.00			Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
					Too acid	0.92
PcD2:						
Pacolet, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
					Too acid	0.92

Table 12.—Source of Sand, Roadfill, and Topsoil—Continued

Map symbol and soil name	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PcE2:						
Pacolet, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Slope	0.50	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.50	Slope	0.00
					Too acid	0.92
PfD2:						
Pacolet, moderately eroded	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
					Too acid	0.92
Cataula, moderately eroded	Poor		Fair		Fair	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.32
	Bottom layer	0.00	Wetness	0.93	Slope	0.84
					Wetness	0.93
Pq:						
Pits, quarries	Not rated		Not rated		Not rated	
PrD:						
Prosperity	Poor		Poor		Fair	
	Thickest layer	0.00	Depth to bedrock	0.00	Wetness	0.38
	Bottom layer	0.00	Low strength	0.00	Slope	0.84
			Wetness	0.38	Too acid	0.92
Helena	Poor		Fair		Poor	
	Thickest layer	0.00	Wetness	0.38	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.99	Wetness	0.38
					Too acid	0.50
Bush River	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness	0.38	Wetness	0.38
			Depth to bedrock	0.92	Slope	0.84
Ro:						
Rock outcrop	Not rated		Not rated		Not rated	
SgB:						
Sedgefield	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.00
			Shrink-swell	0.76		
Crawfordville	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.01
			Wetness	0.01	Depth to bedrock	0.99
SgD:						
Sedgefield	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.00
			Shrink-swell	0.76		
Crawfordville	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness	0.01
			Wetness	0.01	Slope	0.37

Table 12.—Source of Sand, Roadfill, and Topsoil—Continued

Map symbol and soil name	Sand source		Roadfill source		Topsoil source	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:						
Water	Not rated		Not rated		Not rated	
WeA:						
Wehadkee, frequently flooded	Fair		Poor		Poor	
	Thickest layer	0.00	Wetness	0.00	Wetness	0.00
	Bottom layer	0.28	Low strength	0.00	Too clayey	0.47
WfB:						
Wickham	Poor		Good		Fair	
	Thickest layer	0.00			Too clayey	0.58
	Bottom layer	0.00			Too acid	0.98
WkB:						
Wickham, rarely flooded	Poor		Good		Fair	
	Thickest layer	0.00			Too clayey	0.58
	Bottom layer	0.00			Too acid	0.98

Table 13.—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	
	Rating class and limiting features	Value	Rating class and limiting features	Value
AkB:				
Altavista, rarely flooded	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
CaD:				
Cataula, very bouldery	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.80
			Piping	0.08
CcD2:				
Cataula, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.80
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.72	Piping	0.13
CeB2:				
Cecil, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.70		
CeC2:				
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Hard to pack	0.09
CfE3:				
Cecil, severely eroded	Somewhat limited		Not limited	
	Slope	0.77		
	Seepage	0.70		
Cataula, severely eroded	Somewhat limited		Somewhat limited	
	Slope	0.77	Depth to saturated zone	0.80
	Seepage	0.05		
ChA:				
Chewacla, frequently flooded	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Piping	0.86
COA:				
Chewacla, frequently flooded	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00

Table 13.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
COA:				
Congaree, frequently flooded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.88
			Depth to saturated zone	0.02
GeB2:				
Georgeville, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.72
GeD2:				
Georgeville, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.72
	Slope	0.04		
HaB:				
Hard Labor	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.75
			Piping	0.01
Appling	Somewhat limited		Not limited	
	Seepage	0.70		
HaC:				
Hard Labor	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.75
			Piping	0.01
Appling	Somewhat limited		Not limited	
	Seepage	0.70		
HcB:				
Hard Labor	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.75
Cecil	Somewhat limited		Not limited	
	Seepage	0.70		
HdC2:				
Hard Labor, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.75
			Piping	0.01
Cecil, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.72	Piping	0.13
HeB:				
Helena	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00

Table 13.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
HnC:				
Helena	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
LdB2:				
Lloyd, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.70		
LdD2:				
Lloyd, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.70		
	Slope	0.01		
LdE2:				
Lloyd, moderately eroded	Very limited		Not limited	
	Slope	1.00		
	Seepage	0.70		
LfB3:				
Lloyd, severely eroded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.03
M-W:				
Miscellaneous water	Not rated		Not rated	
MbD:				
Mecklenburg	Somewhat limited		Not limited	
	Seepage	0.12		
Crawfordville	Somewhat limited		Very limited	
	Depth to bedrock	0.02	Depth to saturated zone	1.00
			Hard to pack	0.68
			Thin layer	0.58
McE2:				
Mecklenburg, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.72		
	Slope	0.23		
Prosperity, moderately eroded	Somewhat limited		Very limited	
	Slope	0.23	Depth to saturated zone	1.00
	Seepage	0.03		
	Depth to bedrock	0.03	Thin layer	0.66
			Hard to pack	0.45
Helena, moderately eroded	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
	Slope	0.23		
MeB2:				
Mecklenburg, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.12		

Table 13.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
MeB2:				
Sedgefield, moderately eroded	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
MkD2:				
Mecklenburg, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.72		
Wynott, moderately eroded	Somewhat limited		Somewhat limited	
	Depth to bedrock	0.34	Thin layer	0.99
			Hard to pack	0.40
PaB:				
Pacolet, bouldery	Somewhat limited		Not limited	
	Seepage	0.72		
PaD:				
Pacolet, bouldery	Somewhat limited		Not limited	
	Seepage	0.72		
PcD2:				
Pacolet, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.72		
PcE2:				
Pacolet, moderately eroded	Somewhat limited		Not limited	
	Slope	0.77		
	Seepage	0.72		
PfD2:				
Pacolet, moderately eroded	Somewhat limited		Not limited	
	Seepage	0.72		
Cataula, moderately eroded	Somewhat limited		Somewhat limited	
	Seepage	0.05	Depth to saturated zone	0.80
			Piping	0.60
Pq:				
Pits, quarries	Not rated		Not rated	
PrD:				
Prosperity	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
	Depth to bedrock	0.02	Thin layer	0.56
Helena	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
Bush River	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
			Thin layer	0.02
			Piping	0.01

Table 13.—Water Management—Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
Ro:				
Rock outcrop	Not rated		Not rated	
SgB:				
Sedgefield	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
Crawfordville	Somewhat limited		Very limited	
	Depth to bedrock	0.02	Depth to saturated zone	1.00
			Hard to pack	0.68
			Thin layer	0.58
SgD:				
Sedgefield	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
Crawfordville	Somewhat limited		Very limited	
	Slope	0.04	Depth to saturated zone	1.00
	Depth to bedrock	0.02		
			Hard to pack	0.68
			Thin layer	0.58
W:				
Water	Not rated		Not rated	
WeA:				
Wehadkee, frequently flooded	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Piping	1.00
WfB:				
Wickham	Somewhat limited		Not limited	
	Seepage	0.70		
WkB:				
Wickham, rarely flooded	Somewhat limited		Somewhat limited	
	Seepage	0.70	Piping	0.88

Table 14.—Engineering Properties

(Absence of an entry indicates that the data were not estimated. The asterisk (*) denotes the representative texture)

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	
AkB:												
Altavista, rarely flooded-	0-7	*Sandy loam, loam, fine sandy loam	*SC, SC-SM, ML	*A-4	0	0	95-100	84-100	74-100	30-50	21-40	2-14
	7-24	*Sandy clay loam, loam	*SC, SC-SM	*A-6	0	0	95-100	84-100	67-97	36-60	27-45	6-22
	24-43	*Sandy clay loam, clay loam, loam	*SC, SC-SM, SC, CL-ML	*A-6	0	0	95-100	89-100	70-95	38-59	27-44	6-22
	43-60	*Sandy loam, sand, coarse sand, sandy clay loam, clay loam, loamy sand	*SC, SC-SM, SM	*A-6	0	0	70-100	69-100	43-100	18-74	0-57	NP-32
CaD:												
Cataula, very bouldery-------	0-6	*Coarse sandy loam, loamy coarse sand, gravelly sandy loam	*SC-SM	*A-4, A-2-4	0-1	0-4	78-100	77-100	41-67	21-41	17-31	NP-10
	6-31	*Sandy clay, clay	*CH	*A-7-6, A-7	0	0-1	91-100	91-100	71-95	45-67	44-61	16-36
	31-44	*Sandy clay loam, sandy clay	*CL	*A-6	0	0-1	92-100	91-100	71-98	39-62	30-50	8-26
	44-60	*Sandy clay loam, sandy loam	*CL	*A-6	0	0	92-100	92-100	70-92	36-55	24-40	4-18
CcD2:												
Cataula, moderately eroded---------	0-3	*Sandy loam, sandy clay loam, gravelly sandy loam	*SC	*A-4, A-2-4	0	0-13	62-100	60-100	42-86	20-50	20-37	1-14
	3-7	*Sandy clay loam, sandy loam	*ML	*A-4, A-2-4	0	0-10	65-100	63-100	45-92	22-55	20-40	2-18
	7-17	*Clay, clay loam	*CH	*A-7-6, A-7	0	0-8	83-100	82-100	70-100	56-88	42-61	14-36
	17-47	*Sandy clay loam, clay, clay loam	*CL	*A-6	0	0	91-100	90-100	68-100	36-65	29-53	7-28
	47-72	*Sandy loam, sandy clay loam	*SC	*A-4, A-2-4	0	0	90-100	89-100	65-92	31-55	20-40	2-18

Table 14.—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	
CcD2:												
Cecil, moderately eroded	0-3	*Sandy loam, sandy clay loam	*SC	*A-6	0	0	100	83-100	60-96	29-58	21-44	2-20
	3-10	*Sandy clay loam, gravelly sandy clay loam	*SC	*A-6	0	0	100	85-100	70-92	38-55	29-40	7-18
	10-40	*Sandy clay, clay, clay loam	*MH	*A-7-6, A-7	0	0	100	94-100	71-90	44-62	42-57	14-32
	40-55	*Sandy clay loam	*CL	*A-6	0	0-5	83-100	82-100	65-91	36-56	29-42	7-19
	55-60	*Sandy loam, sandy clay loam, loam	*SC	*A-4	0	0	92-100	84-100	58-84	26-46	20-36	2-14
CeB2:												
Cecil, moderately eroded	0-3	*Gravelly sandy loam, gravelly sandy clay loam, sandy clay loam	*SC	*A-2-6, A-1	0	0	86-100	44-100	32-96	16-58	21-44	2-20
	3-7	*Gravelly sandy clay loam, sandy clay loam	*SC	*A-2-6, A-2-4	0	0	88-100	51-100	41-92	23-55	29-40	7-18
	7-56	*Clay, clay loam	*CH	*A-7-6, A-7	0	0-5	95-100	94-100	75-100	63-92	42-66	14-39
	56-72	*Clay loam, sandy clay loam	*CL	*A-6	0	0-5	83-100	82-100	68-95	52-75	29-42	7-19
CeC2:												
Cecil, moderately eroded	0-3	*Gravelly sandy loam, gravelly sandy clay loam, sandy clay loam	*SC	*A-2-6, A-1, A-2-4	0	0	86-100	44-100	32-96	16-58	21-44	2-20
	3-7	*Gravelly sandy clay loam, sandy clay loam	*SC	*A-2-6	0	0	88-100	51-100	41-92	23-55	29-40	7-18
	7-56	*Clay, clay loam	*CH	*A-7-6, A-7	0	0-5	95-100	94-100	75-100	63-92	42-66	14-39
	56-72	*Clay loam, sandy clay loam	*CL	*A-6	0	0-5	83-100	82-100	68-95	52-75	29-42	7-19
CfE3:												
Cecil, severely eroded	0-2	*Sandy clay loam, gravelly sandy clay loam	*SC	*A-6	0	0	83-100	83-100	66-95	35-58	28-44	6-20
	2-45	*Clay, clay loam	*CH	*A-7-6	0	0-5	95-100	94-100	75-100	63-92	42-66	14-39
	45-60	*Clay loam, sandy clay loam	*CL	*A-6	0	0-5	83-100	82-100	68-95	52-75	29-42	7-19

Table 14.—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	
CfE3:												
Cataula, severely eroded	0-5	*Sandy clay loam, sandy loam, gravelly sandy loam	*SM	*A-4, A-1	0	0-13	62-100	60-100	44-91	21-51	20-37	1-14
	5-30	*Clay, clay loam	*CH	*A-7-6	0	0-8	83-100	82-100	70-100	56-88	42-61	14-36
	30-50	*Clay, clay loam, sandy clay loam	*CL	*A-7-6, A-6	0	0	91-100	90-100	75-98	58-80	37-53	12-28
	50-60	*Clay loam, sandy loam	*ML	*A-6, A-4	0	0	90-100	89-100	68-96	51-77	24-44	4-25
ChA:												
Chewacla, frequently flooded	0-4	*Silt loam, silty clay loam, loam, fine sandy loam	*CL	*A-4, A-6	0	0	95-100	95-100	79-100	65-88	22-43	2-18
	4-24	*Silt loam, silty clay loam, clay loam	*CL	*A-6, A-4	0	0	95-100	94-100	86-100	74-90	28-43	6-18
	24-31	*Sandy loam, fine sandy loam, loam	*SC-SM	*A-4, A-2-4	0	0	87-100	86-100	62-84	29-46	20-33	1-11
	31-44	*Silty clay loam, silt loam, clay loam	*ML	*A-7-6, A-4	0	0	90-100	89-100	76-100	66-91	28-47	6-22
	44-60	*Clay loam, silty clay loam, clay, silt loam, sandy loam	*ML	*A-7-6, A-4, A-7	0	0	85-100	83-100	59-100	43-82	26-56	4-28
COA:												
Chewacla, frequently flooded	0-6	*Sandy loam, silt loam, loam, fine sandy loam	*SM	*A-4, A-6	0	0	95-100	95-100	64-82	28-45	18-35	NP-11
	6-16	*Sandy loam, silty clay loam, clay loam	*SC	*A-6, A-4	0	0	95-100	94-100	65-94	29-56	21-47	2-22
	16-27	*Clay loam, silt loam, silty clay loam	*ML, MH	*A-7-6, A-4	0	0	90-100	89-100	68-97	51-77	30-52	7-25
	27-40	*Clay loam, silt loam, silty clay loam	*ML, MH	*A-7-6, A-4	0	0	90-100	89-100	68-97	51-77	30-52	7-25
	40-60	*Sandy clay loam, clay loam, silty clay loam, silt loam, sandy loam	*CL	*A-7-6, A-2-4, A-7, A-4	0	0	85-100	83-100	58-100	29-65	26-56	4-28

Table 14.—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	
COA:												
Congaree, frequently flooded	0-4	*Sandy loam, silt loam, loam	*SM	*A-4, A-6	0	0	100	100	69-82	32-45	20-37	NP-11
	4-18	*Sandy loam, loam, loamy sand	*SC, CL, SM	*A-4	0	0	100	100	72-89	34-51	18-36	1-14
	18-34	*Sandy clay loam, clay loam, silty clay loam, silt loam, sandy loam	*CL	*A-7-6, A-2-4, A-7, A-4	0	0	85-100	83-100	58-100	29-65	26-56	4-28
	34-41	*Sandy loam, loam, loamy sand	*SC, CL, SM	*A-4	0	0	100	100	72-89	34-51	18-36	1-14
	41-60	*Clay loam, silty clay loam, clay, silt loam, sandy loam	*ML	*A-7-6, A-4, A-7	0	0	85-100	83-100	59-100	43-82	26-56	4-28
GeB2:												
Georgeville, moderately eroded	0-5	*Gravelly very fine sandy loam, silt loam, loam	*SC-SM, ML, SM	*A-4	0	0	76-91	62-91	57-91	35-61	17-31	NP-8
	5-37	*Clay, clay loam	*CL, CH	*A-7-6, A-7	0	0-14	89-100	89-100	73-98	57-80	37-53	12-28
	37-72	*Silt loam, silty clay loam	*CL	*A-6	0	0	100	100	87-100	77-92	24-40	4-18
	72-96	*Silt loam	*CL-ML, ML	*A-4, A-6	0	0	100	100	86-100	72-87	16-32	NP-11
GeD2:												
Georgeville, moderately eroded	0-5	*Gravelly very fine sandy loam, silt loam, loam	*SC-SM, ML, SM	*A-4	0	0	76-91	62-91	57-91	35-61	17-31	NP-8
	5-37	*Clay, clay loam	*CL, CH	*A-7-6, A-7	0	0-14	89-100	89-100	73-98	57-80	37-53	12-28
	37-72	*Silt loam, silty clay loam	*CL	*A-6	0	0	100	100	87-100	77-92	24-40	4-18
	72-96	*Silt loam	*CL-ML, ML	*A-4, A-6	0	0	100	100	86-100	72-87	16-32	NP-11

Table 14.—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	
HaB:												
Hard Labor------	0-7	*Gravelly sandy loam, gravelly loamy fine sand, loamy sand	*SC-SM	*A-2-4, A-1, A-4	0	0-4	89-100	53-100	45-100	17-46	17-35	NP-11
	7-16	*Sandy clay loam	*SC	*A-6	0	0-8	86-100	85-100	69-94	38-57	29-42	7-19
	16-33	*Clay, clay loam, sandy clay	*CH	*A-7-6	0	0-5	89-100	89-100	64-100	53-92	36-66	11-39
	33-50	*Clay, clay loam, sandy clay	*CH	*A-7-6	0	0-5	89-100	89-100	64-100	53-92	36-66	11-39
	50-60	*Clay loam, sandy clay loam, sandy clay	*CL, CL-ML	*A-7-6, A-6	0	0-5	86-100	85-100	67-99	50-79	29-49	7-25
Appling---------	0-3	*Gravelly sandy loam	*SC-SM	*A-2-4	0	0	89-100	54-100	37-84	17-46	17-35	NP-11
	3-16	*Gravelly sandy loam	*SC-SM, SC	*A-2-4, A-6	0	0-4	79-100	52-100	38-83	18-44	20-32	2-11
	16-40	*Sandy clay, clay, clay loam	*CH, ML, CL	*A-7-6	0	0-5	94-100	83-100	59-96	35-67	42-66	14-39
	40-48	*Sandy clay loam, clay loam, sandy clay	*SC	*A-7-6, A-7, A-4	0	0-5	95-100	78-100	58-99	31-65	29-53	7-28
	48-60	*Coarse sandy loam, gravelly sandy clay loam, sandy loam, sandy clay loam	*SC, SC-SM, CL-ML, CL	*A-6, A-2	0-1	0-1	83-100	56-100	38-94	17-56	20-44	2-22
HaC:												
Hard Labor------	0-7	*Gravelly sandy loam, gravelly loamy fine sand, loamy sand	*SC-SM	*A-2-4, A-1, A-4	0	0-4	89-100	53-100	45-100	17-46	17-35	NP-11
	7-16	*Sandy clay loam	*SC	*A-6	0	0-8	86-100	85-100	69-94	38-57	29-42	7-19
	16-33	*Clay, clay loam, sandy clay	*CH	*A-7-6	0	0-5	89-100	89-100	64-100	53-92	36-66	11-39
	33-50	*Clay, clay loam, sandy clay	*CH	*A-7-6	0	0-5	89-100	89-100	64-100	53-92	36-66	11-39
	50-60	*Clay loam, sandy clay loam, sandy clay	*CL, CL-ML	*A-7-6, A-6	0	0-5	86-100	85-100	67-99	50-79	29-49	7-25
Appling---------	0-3	*Gravelly sandy loam	*SC-SM	*A-2-4	0	0-4	88-100	59-100	41-84	18-46	17-35	NP-11
	3-16	*Gravelly sandy loam	*SC-SM, SC	*A-4, A-6	0	0-4	79-100	52-100	37-81	22-52	20-32	2-11
	16-40	*Sandy clay, clay, clay loam	*CH, ML, CL	*A-7-6	0	0-5	94-100	83-100	59-96	35-67	42-66	14-39
	40-48	*Sandy clay loam, clay loam, sandy clay	*SC	*A-7-6, A-7, A-4	0	0-5	95-100	78-100	58-99	31-65	29-53	7-28
	48-60	*Coarse sandy loam, gravelly sandy clay loam, sandy loam, sandy clay loam	*SC, SC-SM, CL-ML, CL	*A-6, A-2	0-1	0-1	83-100	56-100	38-94	17-56	20-44	2-22

Table 14.—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	
HcB:												
Hard Labor------	0-3	*Sandy loam, gravelly loamy fine sand, loamy sand	*SC-SM	*A-2-4, A-4	0	0	100	84-100	57-83	23-43	17-35	NP-11
	3-9	*Sandy loam, gravelly loamy fine sand, loamy sand	*SC-SM	*A-2-4, A-4	0	0	100	84-100	57-83	23-43	17-35	NP-11
	9-15	*Sandy clay loam	*SC	*A-6, A-7-6	0	0-4	95-100	90-100	71-94	39-59	30-45	7-22
	15-38	*Sandy clay, sandy clay loam, clay, clay loam	*CH	*A-7-6	0	0-5	89-100	89-100	56-96	31-67	36-66	11-39
	38-60	*Sandy clay loam, clay loam, sandy clay	*CL, CL-ML	*A-7-6, A-2-4, A-6	0	0-5	86-100	85-100	63-94	34-60	29-49	7-25
Cecil-----------	0-9	*Sandy loam, sandy clay loam	*SC	*A-6	0	0	100	83-100	60-96	29-58	21-44	2-20
	9-56	*Clay, clay loam	*CH	*A-7-6, A-7	0	0-5	95-100	94-100	75-100	63-92	42-66	14-39
	56-60	*Sandy loam, sandy clay loam, loam	*SC	*A-4	0	0	92-100	84-100	58-84	26-46	20-36	2-14
HdC2:												
Hard Labor, moderately eroded---------	0-4	*Sandy loam, sandy clay loam, loamy sand	*SC-SM	*A-2-4, A-4	0	0	92-100	92-100	62-83	26-43	17-35	NP-11
	4-12	*Sandy clay loam	*SC	*A-6	0	0-8	86-100	85-100	69-94	38-57	29-42	7-19
	12-41	*Clay, clay loam, sandy clay	*CH	*A-7-6	0	0-5	89-100	89-100	64-100	53-92	36-66	11-39
	41-60	*Sandy clay loam, clay loam, sandy clay	*CL, CL-ML	*A-7-6, A-6	0	0-5	86-100	85-100	67-99	50-79	29-49	7-28
Cecil, moderately eroded---------	0-3	*Sandy loam, sandy clay loam	*SC	*A-6	0	0	91-100	91-100	66-96	32-58	21-44	2-20
	3-10	*Sandy clay loam, gravelly sandy clay loam	*CL	*A-6	0	0-14	100	100	82-92	45-55	29-40	7-18
	10-40	*Sandy clay, clay, clay loam	*MH	*A-7-6, A-7	0	0-5	95-100	94-100	71-90	44-62	42-57	14-32
	40-55	*Sandy clay loam	*CL	*A-6	0	0-5	83-100	82-100	65-91	36-56	29-42	7-19
	55-60	*Sandy loam, sandy clay loam, loam	*SC	*A-4	0	0	92-100	84-100	58-84	26-46	20-36	2-14

Table 14.—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	
HeB:												
Helena	0-3	*Loamy coarse sand, coarse sandy loam, loamy sand, sandy loam	*SC-SM	*A-1-b	0	0-4	91-100	90-100	40-58	12-26	17-33	2-12
	3-8	*Loamy coarse sand, coarse sandy loam, loamy sand, sandy loam	*SC-SM	*A-1-b	0	0-4	91-100	90-100	40-58	12-26	17-33	2-12
	8-19	*Coarse sandy loam, sandy clay loam	*SC	*A-4, A-6	0	0-5	95-100	95-100	60-83	38-60	22-42	6-21
	19-42	*Sandy clay, sandy clay loam, clay, clay loam	*CH	*A-7-6	0	0-5	95-100	95-100	63-100	36-73	37-69	18-44
	42-60	*Clay loam, sandy clay loam, sandy loam	*CL	*A-7-6	0	0	83-100	82-100	60-96	44-76	26-49	10-27
HnC:												
Helena	0-5	*Loamy sand, loamy coarse sand, coarse sandy loam, sandy loam	*SC-SM	*A-1-b, A-2-4	0	0-4	91-100	90-100	40-58	12-26	17-33	2-12
	5-18	*Loamy sand	*SC-SM	*A-4, A-2-6	0	0-12	86-100	86-100	62-85	30-48	16-31	2-12
	18-55	*Sandy clay, sandy clay loam, clay, clay loam	*CH, ML, SC, SM	*A-7-6	0	0-5	95-100	95-100	63-100	36-73	37-69	18-44
	55-60	*Sandy clay loam, coarse sandy loam	*SC	*A-6	0	0-5	95-100	95-100	72-96	34-56	22-42	6-21
LdB2:												
Lloyd, moderately eroded	0-3	*Gravelly loam, loam, gravelly sandy clay loam	*SC	*A-4	0	0	100	62-100	51-100	36-78	21-41	2-18
	3-10	*Gravelly clay loam, clay, clay loam	*GC	*A-7-6, A-6	0-4	0-11	59-100	57-100	49-100	38-88	36-57	11-32
	10-48	*Clay, clay loam	*CH	*A-7-6, A-6	0-3	0-8	87-100	86-100	69-100	55-93	37-66	12-39
	48-60	*Clay loam, loam, sandy clay loam	*ML	*A-6	0	0-4	87-100	87-100	64-96	47-77	22-44	3-22
LdD2:												
Lloyd, moderately eroded	0-3	*Gravelly loam, loam, gravelly sandy clay loam	*SC	*A-4	0	0	100	62-100	51-100	36-78	21-41	2-18
	3-10	*Gravelly clay loam, clay, clay loam	*GC	*A-7-6, A-6	0-4	0-11	59-100	57-100	49-100	38-88	36-57	11-32
	10-48	*Clay, clay loam	*CH	*A-7-6, A-6	0-3	0-8	87-100	86-100	69-100	55-93	37-66	12-39
	48-60	*Clay loam, loam, sandy clay loam	*ML	*A-6	0	0-4	87-100	87-100	64-96	47-77	22-44	3-22

Table 14.—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	
LdE2:												
Lloyd, moderately eroded	0-3	*Gravelly loam, loam, gravelly sandy clay loam	*SC	*A-4	0	0	100	62-100	51-100	36-78	21-41	2-18
	3-10	*Gravelly clay loam, clay, clay loam	*GC	*A-7-6, A-6	0-4	0-11	59-100	57-100	49-100	38-88	36-57	11-32
	10-48	*Clay, clay loam	*CH	*A-7-6	0-3	0-8	87-100	86-100	69-100	55-93	37-66	12-39
	48-60	*Clay loam, loam, sandy clay loam	*ML	*A-6	0	0-4	87-100	87-100	64-96	47-77	22-44	3-22
LfB3:												
Lloyd, severely eroded	0-4	*Sandy clay loam	*SC	*A-6, A-7-6	0	0-4	95-100	90-100	71-94	39-59	30-45	7-22
	4-40	*Clay, sandy clay, clay loam	*CH	*A-7-6	0	0-5	94-100	89-100	69-100	54-94	35-66	10-39
	40-60	*Sandy clay loam, loam, clay loam, sandy loam	*SM, CL-ML, SC-SM, ML	*A-4	0	0-4	95-100	90-100	60-84	28-50	18-36	NP-17
M-W. Miscellaneous water												
MbD:												
Mecklenburg	0-5	*Sandy loam, loam	*SC-SM, SM, CL-ML, CL	*A-4	0	0	100	92-100	68-82	42-54	19-31	3-10
	5-12	*Sandy loam, loam	*SC-SM, SM, CL-ML, CL	*A-4	0	0	100	92-100	68-82	42-54	19-31	3-10
	12-43	*Clay	*CH	*A-7-6	0	0	100	90-100	81-100	74-97	43-67	25-44
	43-60	*Loam, clay loam	*CL	*A-6	0	0	100	97-100	82-95	63-75	29-40	13-21
Crawfordville	0-3	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	3-7	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	7-13	*Clay, clay loam	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	13-35	*Clay	*CH	*A-7-6, A-7	0	0-17	100	100	84-99	69-84	54-69	32-44
	35-38	*Clay loam, clay	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	38-40	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 14.—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	
McE2:												
Mecklenburg, moderately eroded	0-2	*Sandy loam, loam	*SC-SM, SM, CL-ML, CL	*A-4	0	0	100	92-100	68-82	42-54	19-31	3-10
	2-47	*Clay	*CH	*A-7-6	0	0	100	90-100	81-100	74-97	43-67	25-44
	47-57	*Clay loam, loam	*CL	*A-6	0	0	100	97-100	82-95	63-75	29-40	13-21
	57-60	*Loam, clay loam	*CL	*A-6	0	0	100	97-100	84-97	62-75	29-40	13-21
Prosperity, moderately eroded	0-4	*Sandy loam, loamy sand, gravelly coarse sandy loam	*SC-SM	*A-4	0	0	100	92-100	66-85	32-48	17-33	2-12
	4-34	*Clay, clay loam, sandy clay	*CH, CL	*A-7-6	0	0	77-100	76-100	61-100	52-93	45-69	25-44
	34-36	*Clay loam, sandy clay loam	*CL	*A-6	0	0	77-100	76-100	62-96	47-77	31-46	13-25
	36-46	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Helena, moderately eroded	0-5	*Sandy loam, loamy coarse sand, coarse sandy loam, loamy sand	*SC-SM	*A-4, A-2-4	0	0-4	91-100	90-100	65-85	31-48	17-33	2-12
	5-45	*Clay, sandy clay, sandy clay loam, clay loam	*CH, ML	*A-7-6, A-6	0	0-5	95-100	95-100	71-100	55-93	37-69	18-44
	45-60	*Sandy loam, clay loam, sandy clay loam	*SC	*A-4, A-2-4	0	0	83-100	82-100	60-93	29-55	20-40	6-21
MeB2:												
Mecklenburg, moderately eroded	0-4	*Sandy loam, loam	*SC-SM, SM, CL-ML, CL	*A-4	0	0	100	92-100	68-82	42-54	19-31	3-10
	4-50	*Clay	*CH	*A-7-6	0	0	100	90-100	81-100	74-97	43-67	25-44
	50-60	*Clay loam, loam	*CL	*A-6	0	0	100	97-100	82-95	63-75	29-40	13-21

Table 14.—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	
MeB2:												
Sedgefield, moderately eroded	0-4	*Sandy loam	*SC, ML, SM, CL	*A-4, A-6, A-2	0	0	100	84-100	71-97	31-50	20-35	4-13
	4-12	*Sandy clay loam, sandy clay, clay loam	*SC	*A-7-6	0	0-5	94-100	88-100	62-91	31-55	28-48	10-25
	12-37	*Clay, sandy clay, clay loam	*CH	*A-7-6	0	0-5	94-100	88-100	73-100	59-92	45-69	25-44
	37-60	*Sandy loam, clay loam, sandy clay, loam	*SC, CL-ML	*A-2-4, A-2	0	0	90-100	74-100	53-100	26-65	20-49	6-28
MkD2:												
Mecklenburg, moderately eroded	0-2	*Sandy loam, loam	*SC-SM, SM, CL-ML, CL	*A-4	0	0	100	92-100	68-82	42-54	19-31	3-10
	2-47	*Clay, clay	*CH	*A-7-6	0	0	100	90-100	81-100	74-97	43-67	25-44
	47-57	*Clay loam, loam	*CL	*A-6	0	0	100	97-100	82-95	63-75	29-40	13-21
	57-60	*Loam, clay loam	*CL	*A-6	0	0	100	97-100	84-97	62-75	29-40	13-21
Wynott, moderately eroded	0-4	*Sandy loam, gravelly loam	*SC	*A-4	0	0	100	93-100	64-84	29-46	17-35	2-13
	4-7	*Sandy clay loam, clay, clay loam	*SC, CH	*A-7-6	0	0	93-100	85-100	68-100	37-69	32-56	14-33
	7-23	*Clay, sandy clay	*CH	*A-7-6, A-7	0	0	93-100	86-100	67-100	57-96	45-74	25-48
	23-68	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
	68-72	*Bedrock	---	---	---	---	---	---	---	---	---	---
PaB:												
Pacolet, bouldery	0-3	*Loamy sand, sandy loam, loamy coarse sand	*SM	*A-2-4	0	0	92-100	85-100	61-84	13-28	0-28	NP-5
	3-12	*Loamy sand, sandy loam, loamy coarse sand	*SM	*A-2-4	0	0	92-100	85-100	61-84	13-28	0-28	NP-5
	12-28	*Sandy clay, clay loam, clay	*CL	*A-7-6	0	0	95-100	91-100	76-98	47-67	42-57	14-32
	28-60	*Sandy loam, loamy sand, coarse sandy loam	*SC-SM	*A-2-4	0	0	88-100	77-100	58-86	16-31	16-27	NP-8

Table 14.—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	
PaD:												
Pacolet, bouldery	0-3	*Loamy sand, sandy loam, loamy coarse sand	*SM	*A-2-4	0	0	92-100	85-100	61-84	13-28	0-28	NP-5
	3-12	*Loamy sand, sandy loam, loamy coarse sand	*SM	*A-2-4	0	0	92-100	85-100	61-84	13-28	0-28	NP-5
	12-28	*Sandy clay, clay loam, clay	*CL	*A-7-6	0	0	95-100	91-100	76-98	47-67	42-57	14-32
	28-60	*Sandy loam, loamy sand, coarse sandy loam	*SC-SM	*A-2-4	0	0	88-100	77-100	58-86	16-31	16-27	NP-8
PcD2:												
Pacolet, moderately eroded	0-4	*Sandy loam	*SC-SM	*A-4	0	0	100	91-100	69-85	34-48	20-33	1-10
	4-6	*Sandy clay loam	*SC	*A-6	0	0	100	92-100	70-93	36-57	28-47	6-22
	6-28	*Sandy clay, clay loam, clay	*CL	*A-7-6	0	0	100	96-100	80-100	50-72	42-61	14-36
	28-42	*Sandy clay loam	*CL	*A-6	0	0	100	84-100	66-94	37-59	29-44	7-22
	42-60	*Sandy loam, sandy clay loam, loam	*SC	*A-4	0	0	92-100	84-100	58-84	26-46	20-36	2-14
PcE2:												
Pacolet, moderately eroded	0-4	*Sandy loam	*SC-SM	*A-4	0	0	100	91-100	69-85	34-48	20-33	1-10
	4-6	*Sandy clay loam	*SC	*A-6	0	0	100	92-100	76-100	40-61	28-47	6-22
	6-28	*Sandy clay, clay loam, clay	*CL	*A-7-6	0	0	100	96-100	80-100	50-72	42-61	14-36
	28-42	*Sandy clay loam	*CL	*A-6	0	0	100	84-100	66-94	37-59	29-44	7-22
	42-60	*Sandy loam, sandy clay loam, loam	*SC	*A-4	0	0	92-100	84-100	62-88	32-53	20-36	2-14
PfD2:												
Pacolet, moderately eroded	0-4	*Sandy loam	*SC-SM	*A-4	0	0	100	91-100	69-85	34-48	20-33	1-10
	4-6	*Sandy clay loam	*SC	*A-6	0	0	100	92-100	75-97	41-60	30-47	7-22
	6-28	*Sandy clay, clay, clay loam	*CL	*A-7-6	0	0	100	96-100	80-100	50-72	42-61	14-36
	28-42	*Sandy clay loam	*SC	*A-6	0	0	100	84-100	66-94	37-59	29-44	7-22
	42-60	*Sandy loam, loam	*SC	*A-4	0	0	92-100	84-100	58-84	26-46	20-36	2-14

Table 14.—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	
PfD2:												
Cataula, moderately eroded	0-3	*Sandy loam, sandy clay loam, gravelly sandy loam	*SC	*A-4, A-1	0	0-13	62-100	60-100	42-86	20-50	20-37	1-14
	3-7	*Sandy clay loam, sandy loam	*ML	*A-4, A-1	0	0-10	65-100	63-100	45-92	22-55	20-40	2-18
	7-17	*Clay, clay loam	*CH	*A-7-6	0	0-8	83-100	82-100	70-100	56-88	42-61	14-36
	17-47	*Clay loam, clay, sandy clay loam	*CL	*A-6	0	0	91-100	90-100	73-100	56-82	29-49	7-25
	47-72	*Sandy loam, sandy clay loam	*SC	*A-4	0	0	90-100	89-100	65-92	31-55	20-40	2-18
Pq.												
Pits, quarries												
PrD:												
Prosperity	0-4	*Sandy loam, coarse sandy loam, gravelly coarse sandy loam	*SC-SM	*A-4	0	0	100	92-100	66-85	32-48	17-33	2-12
	4-15	*Coarse sandy loam, sandy clay loam	*SC-SM	*A-4, A-6	0	0	95-100	95-100	60-83	38-60	20-40	6-21
	15-20	*Sandy clay loam	*SC	*A-6	0	0	87-100	87-100	71-92	40-56	32-44	15-23
	20-26	*Clay, clay loam, sandy clay	*CH, CL	*A-7-6	0	0	77-100	76-100	61-100	52-93	45-69	25-44
	26-35	*Clay, clay loam, sandy clay	*CH, CL	*A-7-6	0	0	77-100	76-100	61-100	52-93	45-69	25-44
	35-38	*Clay loam, sandy clay loam	*CL	*A-6	0	0	77-100	76-100	62-96	47-77	29-44	13-25
	38-48	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Helena	0-5	*Sandy loam, gravelly loamy sand, gravelly coarse sandy loam	*SC, SM	*A-4	0	0	100	84-100	57-80	25-43	17-33	2-12
	5-16	*Sandy loam, gravelly loamy sand, gravelly coarse sandy loam	*SC, SM	*A-4	0	0	100	84-100	57-80	25-43	17-33	2-12
	16-28	*Sandy clay, clay, clay loam	*CH, CL	*A-7-6, A-7	0	0-5	89-100	89-100	58-96	33-68	41-69	21-44
	28-35	*Sandy clay, sandy clay loam, clay loam	*CL	*A-7-6	0	0-5	90-100	89-100	65-93	37-62	35-55	17-32
	35-60	*Sandy clay loam, sandy loam, clay loam	*SC	*A-6, A-2-6	0-1	0-7	84-100	83-100	66-100	34-61	24-44	9-25

Table 14.—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	
PrD:												
Bush River------	0-5	*Sandy loam, coarse sandy loam, gravelly coarse sandy loam	*SC-SM	*A-4	0	0	100	92-100	66-85	32-48	17-33	2-12
	5-16	*Coarse sandy loam, sandy clay loam	*SC-SM	*A-4, A-6	0	0	95-100	95-100	60-83	38-60	20-40	6-21
	16-24	*Sandy clay	*SC	*A-7-6	0	0	87-100	87-100	71-92	40-56	32-55	15-32
	24-36	*Sandy clay, clay, clay loam	*CH, CL	*A-7-6	0	0	77-100	76-100	61-100	52-93	45-69	25-44
	36-50	*Sandy clay loam, clay loam	*CL	*A-6	0	0	77-100	76-100	62-96	47-77	29-44	13-25
	50-55	*Sandy loam, sandy clay loam	*SC	*A-4, A-2-4	0	0	90-100	89-100	65-92	31-55	20-40	2-36
	55-60	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
Ro.												
Rock outcrop												
SgB:												
Sedgefield------	0-6	*Sandy loam, loamy sand	*SC, SM, ML, CL	*A-4, A-6, A-2	0	0	100	85-100	72-97	32-50	20-35	4-13
	6-11	*Sandy clay loam	*SC, CL	*A-6, A-2	0	0-4	90-100	76-100	58-97	30-60	25-47	9-24
	11-40	*Clay, sandy clay, clay loam	*CH	*A-7-6	0	0-5	94-100	88-100	73-100	59-92	45-69	25-44
	40-60	*Sandy loam, sandy clay loam, loam, gravelly sandy loam	*SC, SC-SM, CL-ML	*A-2-4, A-2	0	0	90-100	74-100	53-97	26-60	20-44	6-25
Crawfordville---	0-3	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	3-7	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	7-13	*Clay, clay loam	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	13-35	*Clay	*CH	*A-7-6, A-7	0	0-17	100	100	84-99	69-84	54-69	32-44
	35-38	*Clay loam, clay	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	38-40	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
SgD:												
Sedgefield------	0-6	*Sandy loam, loamy sand	*SC, SM, ML, CL	*A-4, A-6, A-2	0	0	100	85-100	72-97	32-50	20-35	4-13
	6-11	*Sandy clay loam	*SC, CL	*A-6, A-2	0	0-4	90-100	76-100	58-97	30-60	25-47	9-24
	11-40	*Clay, sandy clay, clay loam	*CH	*A-7-6	0	0-5	94-100	88-100	73-100	59-92	45-69	25-44
	40-60	*Sandy loam, sandy clay loam, loam, gravelly sandy loam	*SC, SC-SM, CL-ML	*A-2-4, A-2	0	0	90-100	74-100	53-97	26-60	20-44	6-25

Table 14.—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	
SgD:												
Crawfordville---	0-3	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	3-7	*Sandy loam, loamy sand	*SC-SM, SM, SC	*A-2-4, A-4	0	0	100	84-100	59-80	23-38	17-31	2-10
	7-13	*Clay, clay loam	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	13-35	*Clay	*CH	*A-7-6, A-7	0	0-17	100	100	84-99	69-84	54-69	32-44
	35-38	*Clay loam, clay	*CH	*A-7-6	0	0	100	100	83-98	61-76	45-61	25-37
	38-40	*Weathered bedrock	---	---	---	---	---	---	---	---	---	---
W.												
Water												
WeA:												
Wehadkee, frequently flooded--------	0-3	*Loam, sandy loam, silt loam	*ML	*A-4	0	0	100	100	82-92	57-67	20-37	NP-8
	3-12	*Loam, sandy loam, silt loam	*ML	*A-4	0	0	100	100	82-92	57-67	20-37	NP-8
	12-38	*Sandy clay loam, clay loam, loamy coarse sand, sand, sandy loam, sandy clay	*CL, ML, SM	*A-6, A-4, A-5, A-7-6	0	0	100	100	64-99	30-65	16-52	NP-25
	38-60	*Clay loam, sandy loam,	*ML	*A-6	0	0	100	100	76-96	56-76	24-47	4-22
WfB:												
Wickham---------	0-9	*Sandy loam	*SC-SM, SM	*A-4	0	0	95-100	86-100	64-82	32-45	20-31	NP-8
	9-52	*Sandy clay loam, loam, clay loam	*SC, SM, CL-ML, CL	*A-6, A-7-6, A-2	0	0	95-100	84-100	66-95	35-59	27-44	6-22
	52-60	*Sandy loam, clay loam, sandy clay loam, loam	*SC, SM, SC-SM, ML, CL	*A-6, A-2-4, A-7-6	0	0	76-100	75-100	49-99	21-61	18-49	NP-25
WkB:												
Wickham, rarely flooded--------	0-7	*Sandy loam	*SC-SM, SM	*A-4	0	0	95-100	86-100	64-82	32-45	20-31	1-8
	7-40	*Sandy clay loam, loam, clay loam	*SC, SM, CL-ML, CL	*A-6, A-7-6, A-2	0	0	95-100	84-100	66-95	35-59	27-44	6-22
	40-60	*Gravelly sandy loam, sandy clay loam, clay loam, loam, sandy loam	*CL, SM, SC-SM, ML	*A-6, A-7-6	0	0	76-100	75-100	55-100	38-84	18-49	NP-28

Table 15.—Physical and Chemical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
AkB:											
Altavista, rarely flooded	0-7	10-24	1.30-1.50	2-6	0.12-0.20	0.0-2.9	4.5-6.5	0.5-3.0	.24	.24	5
	7-24	18-35	1.30-1.50	2-6	0.12-0.20	0.0-2.9	4.5-6.5	0.0-1.0	.24	.24	
	24-43	18-35	1.30-1.50	0.6-2	0.12-0.20	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	43-60	2-50	1.35-1.65	0.6-20	0.06-0.18	0.0-2.9	4.5-6.0	0.0-0.5	.15	.20	
CaD:											
Cataula, very bouldery	0-6	5-18	1.55-1.70	2-6	0.08-0.11	0.0-2.9	4.5-6.5	0.5-1.0	.24	.24	3
	6-31	38-55	1.35-1.45	0.2-0.6	0.13-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	31-44	22-42	1.35-1.55	0.06-0.2	0.06-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	44-60	15-30	1.45-1.60	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
CcD2:											
Cataula, moderately eroded	0-3	8-25	1.35-1.75	2-6	0.11-0.14	0.0-2.9	4.5-6.5	0.5-1.0	.28	.28	3
	3-7	10-30	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.32	.32	
	7-17	35-55	1.30-1.60	0.2-0.6	0.08-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	17-47	20-45	1.75-1.95	0.06-0.2	0.06-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	47-72	10-30	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.32	.28	
Cecil, moderately eroded	0-3	10-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	4
	3-10	20-30	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	10-40	35-50	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	40-55	20-32	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	55-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
CeB2:											
Cecil, moderately eroded	0-3	10-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.15	.28	4
	3-7	20-30	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.24	.28	
	7-56	35-60	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	56-72	20-32	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
CeC2:											
Cecil, moderately eroded	0-3	10-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.15	.28	4
	3-7	20-30	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.24	.28	
	7-56	35-60	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	56-72	20-32	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
CfE3:											
Cecil, severely eroded	0-2	18-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	3
	2-45	35-60	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	45-60	20-32	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
Cataula, severely eroded	0-5	8-25	1.35-1.75	2-6	0.11-0.14	0.0-2.9	4.5-6.5	0.5-1.0	.28	.28	3
	5-30	35-55	1.30-1.60	0.2-0.6	0.08-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	30-50	30-45	1.75-1.95	0.06-0.2	0.06-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	50-60	15-35	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
ChA:											
Chewacla, frequently flooded	0-4	10-30	1.30-1.60	0.6-2	0.15-0.24	0.0-2.9	5.1-6.0	1.0-4.0	.28	.28	5
	4-24	18-30	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.1-6.0	0.5-2.0	.28	.28	
	24-31	8-20	1.30-1.50	2-6	0.09-0.12	0.0-2.9	5.1-6.0	0.5-2.0	.24	.24	
	31-44	18-35	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-6.5	0.5-2.0	.32	.32	
	44-60	15-45	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-7.3	0.5-2.0	.32	.32	
COA:											
Chewacla, frequently flooded	0-6	5-20	1.30-1.60	0.6-2	0.15-0.24	0.0-2.9	5.1-6.0	1.0-4.0	.24	.24	5
	6-16	10-35	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.1-6.0	0.5-2.0	.24	.24	
	16-27	20-40	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-6.5	0.5-2.0	.32	.32	
	27-40	20-40	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-6.5	0.5-2.0	.32	.32	
	40-60	15-45	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-7.3	0.5-2.0	.32	.32	
Congaree, frequently flooded	0-4	7-20	1.45-1.55	2-6	0.12-0.20	0.0-2.9	5.5-6.0	1.0-3.0	.24	.24	5
	4-18	8-25	1.45-1.65	0.6-2	0.13-0.15	0.0-2.9	5.5-6.0	0.0-0.5	.24	.24	
	18-34	15-45	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-7.3	0.0-0.5	.32	.32	
	34-41	8-25	1.45-1.65	0.6-2	0.13-0.15	0.0-2.9	5.5-6.0	0.0-0.5	.24	.24	
	41-60	15-45	1.30-1.50	0.6-2	0.15-0.24	0.0-2.9	5.6-7.3	0.5-2.0	.32	.32	
GeB2:											
Georgeville, moderately eroded	0-5	5-15	1.45-1.55	2-6	0.15-0.19	0.0-2.9	4.5-6.5	0.5-2.0	.24	.37	4
	5-37	30-45	1.40-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	37-72	15-30	1.45-1.55	0.6-2	0.15-0.19	0.0-2.9	4.5-5.5	0.0-0.5	.32	.32	
	72-96	5-20	1.45-1.55	0.6-2	0.15-0.19	0.0-2.9	4.5-5.5	0.0-0.5	.32	.32	
GeD2:											
Georgeville, moderately eroded	0-5	5-15	1.45-1.55	2-6	0.15-0.19	0.0-2.9	4.5-6.5	0.5-2.0	.24	.37	4
	5-37	30-45	1.40-1.50	0.6-2	0.10-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	37-72	15-30	1.45-1.55	0.6-2	0.15-0.19	0.0-2.9	4.5-5.5	0.0-0.5	.32	.32	
	72-96	5-20	1.45-1.55	0.6-2	0.15-0.19	0.0-2.9	4.5-5.5	0.0-0.5	.32	.32	
HaB:											
Hard Labor	0-7	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.15	.24	4
	7-16	20-32	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	16-33	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	33-50	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	50-60	20-40	1.25-1.45	0.06-0.2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
Appling	0-3	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.15	.24	4
	3-16	10-20	1.30-1.50	2-6	0.13-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.15	.24	
	16-40	35-60	1.25-1.45	0.6-2	0.15-0.17	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	40-48	20-45	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	48-60	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
HaC:											
Hard Labor	0-7	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.15	.24	4
	7-16	20-32	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	16-33	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	33-50	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	50-60	20-40	1.25-1.45	0.06-0.2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
HaC:											
Appling	0-3	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.15	.24	4
	3-16	10-20	1.30-1.50	2-6	0.13-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.15	.24	
	16-40	35-60	1.25-1.45	0.6-2	0.15-0.17	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	40-48	20-45	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	48-60	10-35	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
HcB:											
Hard Labor	0-3	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	4
	3-9	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	9-15	20-35	1.45-1.55	0.6-2	0.10-0.14	0.0-2.9	4.5-6.5	0.5-1.0	.28	.28	
	15-38	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	38-60	20-40	1.25-1.45	0.06-0.2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
Cecil	0-9	10-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	4
	9-56	35-60	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	56-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
HdC2:											
Hard Labor, moderately eroded	0-4	5-20	1.40-1.65	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	4
	4-12	20-32	1.25-1.45	0.6-2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	12-41	28-60	1.25-1.45	0.2-0.6	0.15-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	41-60	20-40	1.25-1.45	0.06-0.2	0.12-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
Cecil, moderately eroded	0-3	10-33	1.30-1.50	2-6	0.07-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.28	.28	4
	3-10	20-30	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	10-40	35-50	1.30-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	40-55	20-32	1.20-1.50	0.6-2	0.13-0.15	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
	55-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-5.5	0.0-0.5	.28	.28	
HeB:											
Helena	0-3	5-18	1.58-1.60	2-6	0.07-0.09	0.0-2.9	4.0-5.5	0.5-2.0	.15	.15	4
	3-8	5-18	1.58-1.60	2-6	0.07-0.09	0.0-2.9	4.0-5.5	0.0-0.5	.15	.15	
	8-19	10-30	1.46-1.56	0.6-2	0.07-0.15	3.0-5.9	4.0-5.5	0.0-0.5	.24	.24	
	19-42	25-60	1.44-1.55	0.06-0.2	0.13-0.15	6.0-8.9	4.0-5.5	0.0-0.5	.28	.28	
	42-60	15-38	1.20-1.50	0.6-2	0.08-0.15	3.0-5.9	4.0-5.5	0.0-0.5	.28	.28	
HnC:											
Helena	0-5	5-18	1.58-1.60	2-6	0.07-0.09	0.0-2.9	4.0-5.5	0.5-2.0	.15	.15	4
	5-18	5-18	1.45-1.55	0.6-2	0.15-0.17	0.0-2.9	4.0-5.5	0.0-0.5	.15	.15	
	18-55	25-60	1.44-1.55	0.06-0.2	0.13-0.15	6.0-8.9	4.0-5.5	0.0-0.5	.28	.28	
	55-60	10-30	1.46-1.56	0.6-2	0.07-0.15	3.0-5.9	4.0-5.5	0.0-0.5	.28	.28	
LdB2:											
Lloyd, moderately eroded	0-3	10-30	1.35-1.55	2-6	0.12-0.15	0.0-2.9	4.5-6.5	0.5-1.0	.24	.28	5
	3-10	28-50	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.24	.28	
	10-48	30-60	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	48-60	12-35	1.30-1.65	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
LdD2:											
Lloyd, moderately eroded	0-3	10-30	1.35-1.55	2-6	0.12-0.15	0.0-2.9	4.5-6.5	0.5-1.0	.24	.28	5
	3-10	28-50	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.24	.28	
	10-48	30-60	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	48-60	12-35	1.30-1.65	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
LdE2:											
Lloyd, moderately eroded	0-3	10-30	1.35-1.55	2-6	0.12-0.15	0.0-2.9	4.5-6.5	0.5-1.0	.24	.28	5
	3-10	28-50	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.24	.28	
	10-48	30-60	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	48-60	12-35	1.30-1.65	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
LfB3:											
Lloyd, severely eroded	0-4	20-35	1.45-1.55	0.6-2	0.10-0.14	0.0-2.9	4.5-6.5	0.5-1.0	.28	.28	4
	4-40	27-60	1.30-1.45	0.6-2	0.12-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	40-60	7-35	1.45-1.65	0.6-2	0.11-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
M-W.											
Miscellaneous water											
MbD:											
Mecklenburg	0-5	7-15	1.50-1.60	2-6	0.12-0.16	0.0-2.9	5.1-6.5	0.5-2.0	.24	.24	4
	5-12	7-15	1.50-1.60	2-6	0.12-0.16	0.0-2.9	5.1-6.5	0.5-2.0	.24	.24	
	12-43	35-60	1.25-1.35	0.2-0.6	0.12-0.14	3.0-5.9	5.1-6.5	0.0-0.5	.28	.28	
	43-60	20-30	1.40-1.55	0.06-2	0.12-0.14	0.0-2.9	5.1-6.5	0.0-0.5	.32	.32	
Crawfordville	0-3	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	3
	3-7	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	
	7-13	35-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	13-35	45-60	1.30-1.50	0.02-0.06	0.14-0.16	6.0-8.9	5.0-7.3	0.0-0.5	.20	.20	
	35-38	25-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	38-40	---	---	---	0.00-0.01	---	5.0-7.3	---	---	---	
McE2:											
Mecklenburg, moderately eroded	0-2	7-15	1.50-1.60	2-6	0.12-0.16	0.0-2.9	5.1-6.5	0.5-2.0	.24	.24	4
	2-47	35-60	1.25-1.35	0.2-0.6	0.12-0.14	3.0-5.9	5.1-6.5	0.0-0.5	.24	.24	
	47-57	20-30	1.40-1.55	0.06-2	0.12-0.14	0.0-2.9	5.1-6.5	0.0-0.5	.24	.24	
	57-60	20-30	1.40-1.55	0.6-2	0.16-0.20	0.0-2.9	5.1-6.5	0.0-0.5	.32	.32	
Prosperity, moderately eroded	0-4	5-18	1.55-1.65	2-6	0.12-0.16	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	3
	4-34	35-60	1.35-1.50	0.06-0.2	0.08-0.16	6.0-8.9	4.5-6.0	0.0-0.5	.28	.28	
	34-36	20-35	1.40-1.55	0.2-0.6	0.14-0.17	3.0-5.9	4.5-6.0	0.0-0.5	.28	.28	
	36-46	---	---	---	0.00-0.01	---	4.5-6.0	---	---	---	
Helena, moderately eroded	0-5	5-18	1.58-1.60	2-6	0.12-0.16	0.0-2.9	4.0-5.5	0.5-2.0	.24	.24	4
	5-45	25-60	1.44-1.55	0.06-0.2	0.13-0.15	6.0-8.9	4.0-5.5	0.0-0.5	.28	.28	
	45-60	10-30	1.20-1.50	0.6-2	0.08-0.15	0.0-2.9	4.0-5.5	0.0-0.5	.28	.28	
MeB2:											
Mecklenburg, moderately eroded	0-4	7-15	1.50-1.60	2-6	0.12-0.16	0.0-2.9	5.1-6.5	0.5-2.0	.24	.24	4
	4-50	35-60	1.25-1.35	0.2-0.6	0.12-0.14	3.0-5.9	5.1-6.5	0.0-0.5	.20	.20	
	50-60	20-30	1.40-1.55	0.06-2	0.12-0.14	0.0-2.9	5.1-6.5	0.0-0.5	.24	.24	
Sedgefield, moderately eroded	0-4	8-20	1.40-1.60	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.28	.28	5
	4-12	15-35	1.25-1.40	0.06-0.2	0.14-0.18	6.0-8.9	4.5-6.5	0.0-0.5	.28	.28	
	12-37	35-60	1.25-1.40	0.06-0.2	0.14-0.18	6.0-8.9	4.5-8.4	0.0-0.5	.28	.28	
	37-60	10-40	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	4.5-8.4	0.0-0.5	.28	.28	

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
MkD2:											
Mecklenburg, moderately eroded	0-2	7-15	1.50-1.60	2-6	0.12-0.16	0.0-2.9	5.1-6.5	0.5-2.0	.24	.24	4
	2-47	35-60	1.25-1.35	0.2-0.6	0.12-0.14	3.0-5.9	5.1-6.5	0.0-0.5	.20	.20	
	47-57	20-30	1.40-1.55	0.06-2	0.12-0.14	0.0-2.9	5.1-6.5	0.0-0.5	.24	.24	
	57-60	20-30	1.40-1.55	0.6-2	0.16-0.20	0.0-2.9	5.1-6.5	0.0-0.5	.32	.32	
Wynott, moderately eroded	0-4	5-20	1.45-1.65	2-6	0.08-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.24	.24	3
	4-7	20-45	1.20-1.50	0.06-0.2	0.15-0.17	6.0-8.9	4.5-6.5	0.0-0.5	.28	.28	
	7-23	35-65	1.30-1.50	0.06-0.2	0.15-0.20	6.0-8.9	4.5-6.5	0.0-0.5	.28	.28	
	23-68	---	---	---	0.00-0.01	---	---	---	---	---	
	68-72	---	---	---	---	---	---	---	---	---	
PaB:											
Pacolet, bouldery-	0-3	0-12	1.60-1.70	2-6	0.06-0.10	0.0-2.9	5.1-6.0	0.5-2.0	.15	.15	3
	3-12	0-12	1.60-1.70	2-6	0.06-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.15	.15	
	12-28	35-50	1.35-1.45	0.6-2	0.14-0.18	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	28-60	5-15	1.50-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
PaD:											
Pacolet, bouldery-	0-3	0-12	1.60-1.70	2-6	0.06-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.15	.15	3
	3-12	0-12	1.60-1.70	2-6	0.06-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.15	.15	
	12-28	35-50	1.35-1.45	0.6-2	0.14-0.18	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	28-60	5-15	1.50-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
PcD2:											
Pacolet, moderately eroded	0-4	8-18	1.35-1.55	0.6-2	0.07-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.20	.20	3
	4-6	18-35	1.50-1.60	0.6-2	0.11-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	
	6-28	35-55	1.25-1.45	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	28-42	20-35	1.45-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	42-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
PcE2:											
Pacolet, moderately eroded	0-4	8-18	1.35-1.55	2-6	0.07-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	3
	4-6	18-35	1.50-1.60	0.6-2	0.11-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	
	6-28	35-55	1.25-1.45	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	28-42	20-35	1.45-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	42-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
PfD2:											
Pacolet, moderately eroded	0-4	8-18	1.35-1.55	2-6	0.07-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	3
	4-6	20-35	1.50-1.60	0.6-2	0.11-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	
	6-28	35-55	1.25-1.45	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	28-42	20-35	1.45-1.60	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	42-60	10-25	1.45-1.60	0.6-2	0.08-0.12	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
Cataula, moderately eroded	0-3	8-25	1.35-1.75	2-6	0.11-0.14	0.0-2.9	4.5-6.5	0.5-1.0	.28	.28	3
	3-7	10-30	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.32	.32	
	7-17	35-55	1.30-1.60	0.2-0.6	0.08-0.16	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	17-47	20-40	1.75-1.95	0.06-0.2	0.06-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	47-72	10-30	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.32	.32	
Pq.											
Pits, quarries											

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
PrD:											
Prosperity	0-4	5-18	1.55-1.65	6-20	0.09-0.11	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	3
	4-15	10-30	1.46-1.56	0.6-2	0.07-0.15	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	15-20	22-32	1.45-1.55	0.6-2	0.15-0.17	3.0-5.9	4.5-6.0	0.0-0.5	.28	.28	
	20-26	35-60	1.35-1.50	0.06-0.2	0.08-0.16	6.0-8.9	4.5-6.0	0.0-0.5	.28	.28	
	26-35	35-60	1.35-1.50	0.06-0.2	0.08-0.16	6.0-8.9	4.5-6.0	0.0-0.5	.28	.28	
	35-38	20-35	1.40-1.55	0.2-0.6	0.14-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	38-48	---	---	---	0.00-0.01	---	4.5-6.0	---	---	---	
Helena	0-5	5-18	1.55-1.65	6-20	0.09-0.11	0.0-2.9	4.0-5.5	0.5-2.0	.24	.24	4
	5-16	5-18	1.55-1.65	6-20	0.09-0.11	0.0-2.9	4.0-5.5	0.5-2.0	.24	.24	
	16-28	30-60	1.25-1.45	0.06-0.2	0.08-0.10	6.0-8.9	4.0-5.5	0.0-0.5	.28	.28	
	28-35	25-45	1.35-1.55	0.2-0.6	0.15-0.17	3.0-5.9	4.0-5.5	0.0-0.5	.28	.28	
	35-60	15-35	1.40-1.60	0.6-2	0.08-0.15	0.0-2.9	4.0-5.5	0.0-0.5	.28	.28	
Bush River	0-5	5-18	1.55-1.65	6-20	0.09-0.11	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	4
	5-16	10-30	1.46-1.56	0.6-2	0.07-0.15	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	16-24	22-45	1.45-1.55	0.6-2	0.15-0.17	3.0-5.9	4.5-6.0	0.0-0.5	.28	.28	
	24-36	35-60	1.35-1.50	0.06-0.2	0.08-0.16	6.0-8.9	4.5-6.0	0.0-0.5	.28	.28	
	36-50	20-35	1.40-1.55	0.2-0.6	0.14-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.28	.28	
	50-55	10-30	1.60-1.80	0.2-0.6	0.11-0.13	0.0-2.9	4.5-6.0	0.0-0.5	.32	.32	
	55-60	---	---	---	0.00-0.01	---	---	---	---	---	
Ro.											
Rock outcrop											
SgB:											
Sedgefield	0-6	8-20	1.40-1.60	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.28	.28	5
	6-11	15-35	1.40-1.60	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	11-40	35-60	1.25-1.40	0.06-0.2	0.14-0.18	6.0-8.9	4.5-8.4	0.0-0.5	.28	.28	
	40-60	10-35	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	4.5-8.4	0.0-0.5	.28	.28	
Crawfordville	0-3	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	3
	3-7	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	
	7-13	35-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	13-35	45-60	1.30-1.50	0.02-0.06	0.14-0.16	6.0-8.9	5.0-7.3	0.0-0.5	.20	.20	
	35-38	25-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	38-40	---	---	---	0.00-0.01	---	5.0-7.3	---	---	---	
SgD:											
Sedgefield	0-6	8-20	1.40-1.60	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.5-2.0	.28	.28	5
	6-11	15-35	1.40-1.60	2-6	0.10-0.15	0.0-2.9	4.5-6.5	0.0-0.5	.28	.28	
	11-40	35-60	1.25-1.40	0.06-0.2	0.14-0.18	6.0-8.9	4.5-8.4	0.0-0.5	.28	.28	
	40-60	10-35	1.30-1.55	0.6-6	0.08-0.15	0.0-2.9	4.5-8.4	0.0-0.5	.28	.28	
Crawfordville	0-3	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	3
	3-7	5-15	1.50-1.70	2-20	0.08-0.13	0.0-2.9	4.5-6.0	0.5-2.0	.28	.28	
	7-13	35-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	13-35	45-60	1.30-1.50	0.02-0.06	0.14-0.16	6.0-8.9	5.0-7.3	0.0-0.5	.20	.20	
	35-38	25-50	1.35-1.55	0.06-0.2	0.14-0.17	6.0-8.9	4.5-7.3	0.0-0.5	.24	.24	
	38-40	---	---	---	0.00-0.01	---	5.0-7.3	---	---	---	
W.											
Water											
WeA:											
Wehadkee, frequently flooded	0-3	5-15	1.25-1.50	0.6-6	0.11-0.21	0.0-2.9	5.1-6.0	2.0-5.0	.24	.24	5
	3-12	5-15	1.25-1.50	0.6-6	0.11-0.21	0.0-2.9	5.1-6.0	0.0-2.0	.24	.24	
	12-38	5-40	1.40-1.70	6-20	0.05-0.18	0.0-2.9	5.1-6.0	0.0-2.0	.24	.24	
	38-60	15-35	1.35-1.55	0.6-2	0.12-0.20	0.0-2.9	5.1-6.0	0.0-2.0	.24	.24	

Table 15.—Physical and Chemical Soil Properties—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
WfB:											
Wickham	0-9	8-15	1.45-1.65	2-6	0.11-0.16	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	9-52	18-35	1.30-1.50	0.6-2	0.12-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	52-60	7-40	1.30-1.45	0.6-2	0.15-0.19	0.0-2.9	3.6-6.0	0.0-0.5	.24	.24	
WkB:											
Wickham, rarely flooded	0-7	8-15	1.45-1.65	2-6	0.11-0.16	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	7-40	18-35	1.30-1.50	0.6-2	0.12-0.17	0.0-2.9	4.5-6.0	0.0-0.5	.24	.24	
	40-60	7-40	1.30-1.45	0.6-2	0.15-0.19	0.0-2.9	3.6-6.0	0.0-0.5	.15	.24	

Table 16.—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			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	In		
AkB:					
Altavista, rarely flooded	---	---	---	Moderate	Moderate
CaD:					
Cataula, very bouldery-	---	---	---	High	High
CcD2:					
Cataula, moderately eroded	---	---	---	High	High
Cecil, moderately eroded	---	---	---	High	High
CeB2:					
Cecil, moderately eroded	---	---	---	High	High
CeC2:					
Cecil, moderately eroded	---	---	---	High	High
CfE3:					
Cecil, severely eroded-	---	---	---	High	High
Cataula, severely eroded	---	---	---	High	High
ChA:					
Chewacla, frequently flooded	---	---	---	High	Moderate
COA:					
Chewacla, frequently flooded	---	---	---	High	Moderate
Congaree, frequently flooded	---	---	---	Moderate	Moderate
GeB2:					
Georgeville, moderately eroded	---	---	---	High	High
GeD2:					
Georgeville, moderately eroded	---	---	---	High	High
HaB:					
Hard Labor	---	---	---	High	High
Appling	---	---	---	High	High
HaC:					
Hard Labor	---	---	---	High	High
Appling	---	---	---	High	High

Table 16.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	In		
HcB:					
Hard Labor	---	---	---	High	High
Cecil	---	---	---	High	High
HdC2:					
Hard Labor, moderately eroded	---	---	---	High	High
Cecil, moderately eroded	---	---	---	High	High
HeB:					
Helena	---	---	---	High	High
HnC:					
Helena	---	---	---	High	High
LdB2:					
Lloyd, moderately eroded	---	---	---	High	High
LdD2:					
Lloyd, moderately eroded	---	---	---	High	High
LdE2:					
Lloyd, moderately eroded	---	---	---	High	High
LfB3:					
Lloyd, severely eroded	---	---	---	High	High
M-W.					
Miscellaneous water					
MbD:					
Mecklenburg	---	---	---	High	High
Crawfordville	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
McE2:					
Mecklenburg, moderately eroded	---	---	---	High	High
Prosperity, moderately eroded	Paralithic bedrock	20-40	Moderately cemented	High	High
Helena, moderately eroded	---	---	---	High	High
MeB2:					
Mecklenburg, moderately eroded	---	---	---	High	High
Sedgefield, moderately eroded	---	---	---	High	Moderate

Table 16.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	In		
MkD2:					
Mecklenburg, moderately eroded	---	---	---	High	High
Wynott, moderately eroded	Paralithic bedrock	20-40	Weakly cemented	High	Moderate
PaB:					
Pacolet, bouldery	---	---	---	High	High
PaD:					
Pacolet, bouldery	---	---	---	High	High
PcD2:					
Pacolet, moderately eroded	---	---	---	High	High
PcE2:					
Pacolet, moderately eroded	---	---	---	High	High
PfD2:					
Pacolet, moderately eroded	---	---	---	High	High
Cataula, moderately eroded	---	---	---	High	High
Pq.					
Pits, quarries					
PrD:					
Prosperity	Paralithic bedrock	20-40	Moderately cemented	High	High
Helena	---	---	---	High	High
Bush River	Paralithic bedrock	40-60	Moderately cemented	High	High
Ro.					
Rock outcrop					
SgB:					
Sedgefield	---	---	---	High	Moderate
Crawfordville	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
SgD:					
Sedgefield	---	---	---	High	Moderate
Crawfordville	Paralithic bedrock	20-40	Moderately cemented	High	Moderate
W.					
Water					
WeA:					
Wehadkee, frequently flooded	---	---	---	High	Moderate

Table 16.—Soil Features—Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	In		
WfB:					
Wickham	---	---	---	High	High
WkB:					
Wickham, rarely flooded	---	---	---	High	High

Table 17.—Water Features

(Depths of layers are in feet. 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	Hydrologic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		Ft				
AkB:									
Altavista, rarely flooded-	C								
		Jan-Apr	1.5-2.5	Apparent	---	---	---	Very brief	Rare
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	1.5-2.5	Apparent	---	---	---	Very brief	Rare
CaD:									
Cataula, very bouldery-------	B								
		Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
CcD2:									
Cataula, moderately eroded---------	B								
		Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
Cecil, moderately eroded---------	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
CeB2:									
Cecil, moderately eroded---------	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
CeC2:									
Cecil, moderately eroded---------	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
CfE3:									
Cecil, severely eroded---------	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
Cataula, severely eroded	B								
		Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
ChA:									
Chewacla, frequently flooded--------	C								
		Jan-Apr	0.5-2.0	Apparent	---	---	---	Brief	Frequent
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	0.5-2.0	Apparent	---	---	---	Brief	Frequent

Table 17.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
COA:									
Chewacla, frequently flooded	C	Jan-Apr	0.5-2.0	Apparent	---	---	---	Brief	Frequent
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	0.5-2.0	Apparent	---	---	---	Brief	Frequent
Congaree, frequently flooded	B	Jan-Apr	3.3-4.0	Apparent	---	---	---	Brief	Frequent
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	3.3-4.0	Apparent	---	---	---	Brief	Frequent
GeB2:									
Georgeville, moderately eroded	B	Jan-Dec	>6.0	---	---	---	---	---	None
GeD2:									
Georgeville, moderately eroded	B	Jan-Dec	>6.0	---	---	---	---	---	None
HaB:									
Hard Labor	B	Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
Appling	B	Jan-Dec	>6.0	---	---	---	---	---	None
HaC:									
Hard Labor	B	Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
Appling	B	Jan-Dec	>6.0	---	---	---	---	---	None
HcB:									
Hard Labor	B	Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
Cecil	B	Jan-Dec	>6.0	---	---	---	---	---	None
HdC2:									
Hard Labor, moderately eroded	B	Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None

Table 17.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
HdC2:									
Cecil, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
HeB:									
Helena	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
HnC:									
Helena	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
LdB2:									
Lloyd, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
LdD2:									
Lloyd, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
LdE2:									
Lloyd, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
LfB3:									
Lloyd, severely eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
MbD:									
Mecklenburg	C								
		Jan-Dec	>6.0	---	---	---	---	---	None
Crawfordville	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
McE2:									
Mecklenburg, moderately eroded	C								
		Jan-Dec	>6.0	---	---	---	---	---	None
Prosperity, moderately eroded	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None

Table 17.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
McE2:									
Helena, moderately eroded	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
MeB2:									
Mecklenburg, moderately eroded	C								
		Jan-Dec	>6.0	---	---	---	---	---	None
Sedgefield, moderately eroded	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
MkD2:									
Mecklenburg, moderately eroded	C								
		Jan-Dec	>6.0	---	---	---	---	---	None
Wynott, moderately eroded	C								
		Jan-Dec	>6.0	---	---	---	---	---	None
PaB:									
Pacolet, bouldery	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
PaD:									
Pacolet, bouldery	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
PcD2:									
Pacolet, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
PcE2:									
Pacolet, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None
PfD2:									
Pacolet, moderately eroded	B								
		Jan-Dec	>6.0	---	---	---	---	---	None

Table 17.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
PfD2:									
Cataula, moderately eroded	B								
		Jan-Apr	2.5-3.3	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	2.5-3.3	Perched	---	---	---	---	None
PrD:									
Prosperity	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
Helena	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
Bush River	C								
		Jan-Apr	1.5-2.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.5-2.5	Perched	---	---	---	---	None
SgB:									
Sedgefield	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
Crawfordville	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
SgD:									
Sedgefield	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
Crawfordville	D								
		Jan-Apr	1.0-1.5	Perched	---	---	---	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	1.0-1.5	Perched	---	---	---	---	None
WeA:									
Wehadkee, frequently flooded	D								
		Jan-Apr	0.0-1.0	Apparent	---	---	---	Long	Frequent
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	0.0-1.0	Apparent	---	---	---	Long	Frequent
WfB:									
Wickham	B								
		Jan-Dec	>6.0	---	---	---	---	---	None

Table 17.—Water Features—Continued

Map symbol and soil name	Hydrologic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
WkB:									
Wickham, rarely flooded	B								
		Jan-Apr	>6.0	---	---	---	---	Very brief	Rare
		May-Nov	>6.0	---	---	---	---	---	---
		Dec	>6.0	---	---	---	---	Very brief	Rare

Table 18.—Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Altavista	Fine-loamy, mixed, semiactive, thermic Aquic Hapludults
Appling	Fine, kaolinitic, thermic Typic Kanhapludults
Bush River	Fine, mixed, semiactive, thermic Aquic Hapludults
Cataula	Fine, kaolinitic, thermic Oxyaquic Kanhapludults
Cecil	Fine, kaolinitic, thermic Typic Kanhapludults
Chewacla	Fine-loamy, mixed, active, thermic Fluvaquentic Dystrudepts
Congaree	Fine-loamy, mixed, active, nonacid, thermic Oxyaquic Udifluvents
Crawfordville	Fine, mixed, active, thermic Albaquultic Hapludalfs
Georgeville	Fine, kaolinitic, thermic Typic Kanhapludults
Hard Labor	Fine, kaolinitic, thermic Oxyaquic Kanhapludults
Helena	Fine, mixed, semiactive, thermic Aquic Hapludults
Lloyd	Fine, kaolinitic, thermic Rhodic Kanhapludults
Mecklenburg	Fine, mixed, active, thermic Ultic Hapludalfs
Pacolet	Fine, kaolinitic, thermic Typic Kanhapludults
Prosperity	Fine, mixed, semiactive, thermic Aquic Hapludults
Sedgefield	Fine, mixed, active, thermic Aquultic Hapludalfs
*Wehadkee	Fine-loamy, mixed, active, nonacid, thermic Fluventic Endoaquepts
Wickham	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Wynott	Fine, mixed, active, thermic Typic Hapludalfs

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