United States
Department of
Agriculture

Soil
Conservation
Service

In cooperation with
South Carolina Agricultural
Experiment Station and
South Carolina Land Resources
Conservation Commission

Soil Survey of Dorchester County, South Carolina

How To Use This Soil Survey

General Soil Map

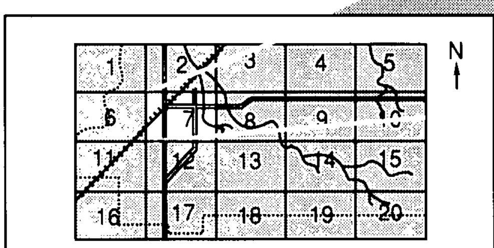
The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

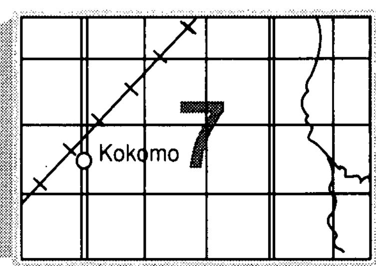
Detailed Soil Maps

The detailed soil maps follow the general soil map. These 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**, which precedes the soil maps. Note the number of the map sheet, and turn to that sheet.



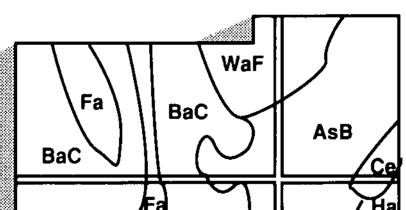
INDEX TO MAP SHEETS



MAP SHEET

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

MAP SHEET



AREA OF INTEREST

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

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

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 Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1985. Soil names and descriptions were approved in 1985. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1985. This soil survey was made cooperatively by the Soil Conservation Service, South Carolina Agricultural Experiment Station, and the South Carolina Land Resources Conservation Commission. It is part of the technical assistance furnished to the Dorchester Soil and Water Conservation District.

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.

All programs and services of the Soil Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Cover: The ruins of St. George's Anglican Church in Old Fort Dorchester State Park are on Chisolm fine sand, 0 to 6 percent slopes. This church was one of the first structures built in the town of Dorchester.

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Soil Series

Issued January 1990

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Foreword

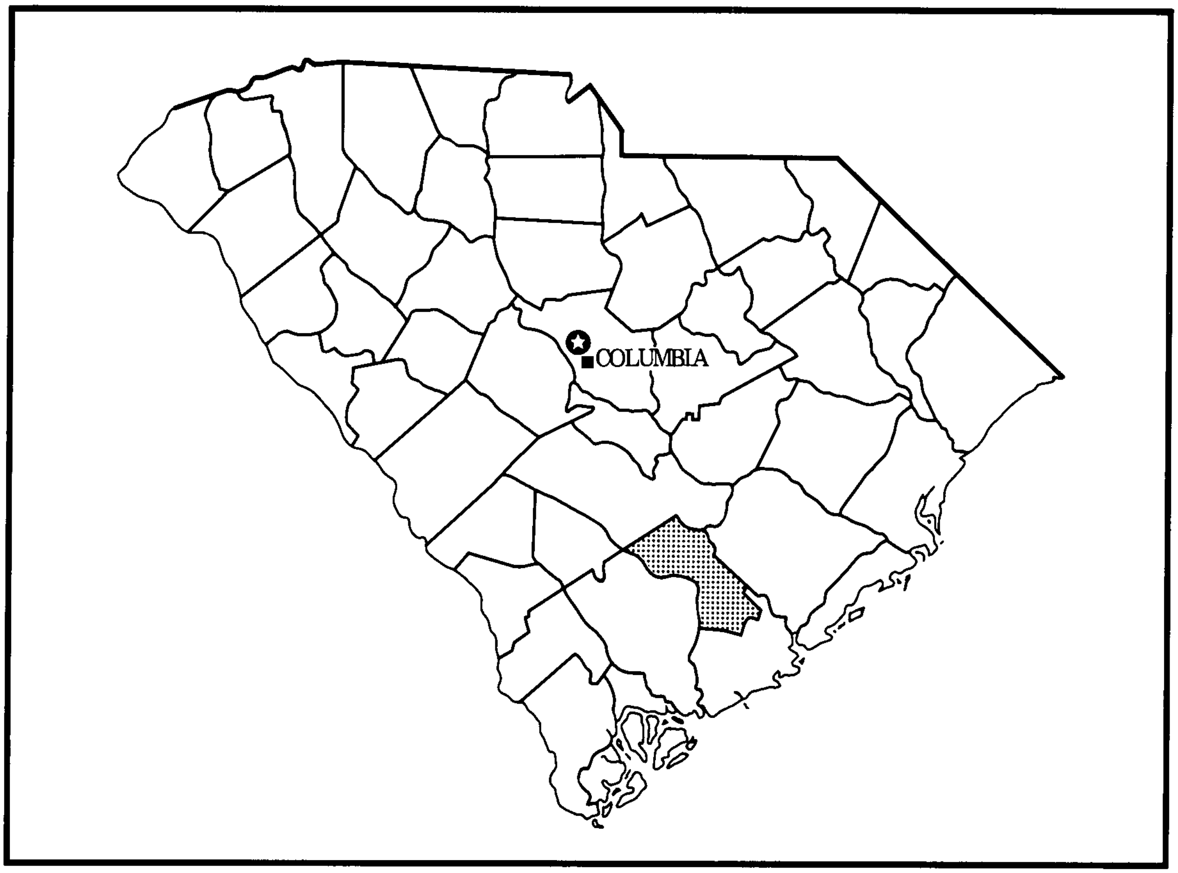
This soil survey contains information that can be used in land-planning programs in Dorchester County, South Carolina. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it 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 survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

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. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

Billy R. Abercrombie
State Conservationist
Soil Conservation Service



Location of Dorchester County in South Carolina.

Soil Survey of Dorchester County, South Carolina

By Robert T. Eppinette, Soil Conservation Service

Soils surveyed by Robert T. Eppinette and Randall K. Fowler, Soil Conservation Service, and Warren M. Stuck, South Carolina Land Resources Conservation Commission

United States Department of Agriculture, Soil Conservation Service
In cooperation with the
South Carolina Agricultural Experiment Station and the
South Carolina Land Resources Conservation Commission

DORCHESTER COUNTY is in the southeastern part of South Carolina. The county is about 569 square miles, or 364,000 acres, and has a population of about 65,000. St. George, the county seat, has a population of about 5,000. Summerville, the largest city, has a population of about 44,000.

Dorchester County is in the Atlantic Coast Flatwoods Major Land Resource Area. Most of the soils in the county are nearly level. In a few small areas, mainly along major rivers and swamps, the soils are gently sloping. The elevation ranges from 3 to 4 feet above sea level along the Ashley River to about 120 feet above sea level near Reevesville.

The county is bounded on the north by Orangeburg County, on the east by Berkeley County, on the south by Charleston County, and is separated from Colleton County on the west by the Edisto River.

General Nature of the County

Dorchester County was established in 1867 from parts of Colleton and Berkeley Counties. In 1697, the first settlers founded the town of Dorchester on the Ashley River. This group of settlers, led by the Reverend Joseph Lord, came from Dorchester, Massachusetts, seeking religious freedom.

The town of Dorchester prospered for about sixty years and became the third largest town in the Province of South Carolina. The others were Charleston and Georgetown. The town's prosperity declined rapidly when many of the settlers moved to Midway, Georgia, to establish a new missionary settlement.

From about 1700 to 1860, rice plantations flourished along the Ashley River. To escape the swarms of mosquitoes breeding in the rice fields, plantation owners built summer homes on the higher, well drained soils in the community they later named Summerville. Nearly all of the rice plantations were destroyed during the Civil War. This, along with the severe storms of the late 19th century, virtually eliminated rice production along the Ashley River. From about 1880 to 1950, cotton was the major agricultural crop.

Most of the towns in Dorchester County were built along the railroad between Charleston and Branchville. This was the first commercial railroad in the United States. St. George, the county seat, was a watering station for steam engines hauling freight and passengers between Charleston and Columbia.

Dorchester County has a wide diversity of land use. The areas around St. George remain mostly agricultural, while the Summerville area is experiencing the fastest growth in land development in South Carolina. Nearly a fourth of the land in the county is owned and managed by paper companies for pulpwood and timber production. Several sawmills scattered throughout the county employ hundreds of people.

Climate

Prepared by the National Climatic Data Center, Asheville, North Carolina.

Dorchester County is hot and humid in summer, but the coast is frequently cooled by sea breezes. Winter is cool, with occasionally brief cold spells. Rains occur throughout the year and are fairly heavy; snowfall is rare. Annual precipitation is adequate for all crops. Every few years a hurricane crosses the area.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Summerville in the period 1951 to 1981. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 48 degrees F, and the average daily minimum temperature is 36 degrees. The lowest temperature on record, which occurred at Summerville on February 12, 1973, is 4 degrees. In summer the average temperature is 79 degrees, and the average daily maximum temperature is 89 degrees. The highest recorded temperature, which occurred at Summerville on August 18, 1954, is 106 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 total annual precipitation is 50 inches. Of this, 31 inches, or 60 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 24 inches. The heaviest 1-day rainfall during the period of record was 7.9 inches at Summerville on July 2, 1966. Thunderstorms occur on about 56 days each year, and most occur in summer.

The average seasonal snowfall is 1 inch. The greatest snow depth at any one time during the period of record was 4 inches.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 70 percent of the time possible in summer and 60 percent in winter. The prevailing wind is from the north-northeast. Average windspeed is highest, 10 miles per hour, in spring.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; and the kinds of crops and native plants growing on the soils. 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 from which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, the landforms, relief, climate, and the natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil 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-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, distribution of plant roots, acidity, 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. 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 are generally collected for laboratory analyses and for engineering tests. Soil scientists interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all of the soils were field tested through observation of the soils in different uses under different levels of management.

Some interpretations are modified to fit local conditions, and new interpretations sometimes are developed to meet local needs. Data were 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 were 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 state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure 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.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. 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 soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. In the detailed soil map units, these latter soils are called inclusions or included soils. In the general soil map units, they are called soils of minor extent.

Most inclusions have properties and behavioral patterns 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 (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed, and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soils on the landscape.

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

General Soil Map Units

The general soil map at the back of 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, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units 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 a 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.

Dominantly Nearly Level or Gently Sloping Soils On Upland Terraces or Small Ridges

1. Albany-Bonneau-Osier

Somewhat poorly drained, well drained, and poorly drained soils that have a thick, sandy surface layer and a loamy subsoil or that are sandy throughout

In this map unit, the landscape typically is nearly level to gently sloping ridges or upland terraces dissected by drainageways. The natural vegetation on the sandy ridges is mostly pine with thick understory vegetation of mostly sweetgum, maple, and oak. The vegetation in the drainageways is mostly water-tolerant hardwoods. Some areas that average about 20 acres have been cleared. Only a few dwellings or structures are in areas of this map unit.

This map unit makes up about 8 percent of the survey area. It is about 19 percent Albany soils, 12 percent Bonneau soils, 10 percent Osier soils, and 59 percent soils of minor extent.

The Albany soils are nearly level and are on low sandy ridges and side slopes of upland terraces. These soils are somewhat poorly drained. They have a brownish sandy surface layer, a brownish and yellowish sandy subsurface layer, and a brownish and grayish loamy subsoil.

The Bonneau soils are nearly level to gently sloping and are on sandy ridges of upland terraces. These soils are well drained. They have a grayish sandy surface layer, a brownish sandy subsurface layer, and a brownish, yellowish, and grayish loamy subsoil.

The Osier soils are nearly level and are in drainageways and shallow depressions. These soils are poorly drained. They have a grayish sandy surface layer and a grayish and brownish sandy underlying material.

Of minor extent in this map unit are the Blanton, Chipley, Ocilla, Pelham, Plummer, and Rutlege soils. The Blanton soils are on the higher sandy ridges and are somewhat excessively drained. The Chipley and Ocilla soils are on lower ridges and side slopes. The Chipley soils are moderately well drained, and the Ocilla soils are somewhat poorly drained. The Pelham and Plummer soils are in drainageways and shallow depressions and are poorly drained. The Rutlege soils are in drainageways and are very poorly drained.

Most areas of this map unit are woodland. Small cleared patches are used as food plots for wildlife management or for row crops.

The soils of this map unit are suited or not suited to row crops. These soils have low nutrient-holding capacity and need frequent fertilizing. The soils on sandy ridges become droughty during dry periods. Conservation tillage and cover crops help maintain organic residue near the soil surface and improve the soil moisture and nutrient relationships. The soils at a lower elevation and in drainageways or depressions have problems caused by wetness. Surface and subsurface drainage systems can reduce these problems.

These soils are well suited to not suited to use as pastureland. The major concerns in management are the low nutrient-holding capacity, droughty conditions during dry periods, and wetness of soils in drainageways and depressions. Proper stocking, pasture rotation, and restricted grazing during dry or wet periods help keep the pasture and soil in good condition.

These soils are well suited or suited to use as woodland. The major concern in management is the sandy texture. Using equipment that has wide tracks or enlarged tires can reduce this problem.

These soils are well suited to not suited to engineering uses related to dwellings and other structures. Wetness is the main limitation. Surface and subsurface drainage systems can reduce the problems caused by wetness on all but the Osier soils.

2. Bonneau-Ocilla-Blanton

Well drained, somewhat poorly drained, and somewhat excessively drained soils that have a thick, sandy surface layer and a loamy subsoil

In this map unit, the landscape typically is concave upland terraces parallel to drainageways and major swamps. Most areas of this map unit are being developed to residential and commercial uses. The natural vegetation in the drainageways dissecting this map unit is mixed pine and hardwood with a thick understory of greenbrier, blackberry, and cane. Many residential and commercial structures and a few farm structures are in areas of this map unit. County and city roads provide access to all areas.

This map unit makes up about 3 percent of the survey area. It is about 22 percent Bonneau soils, 18 percent Ocilla soils, 12 percent Blanton soils, and 48 percent soils of minor extent.

The Bonneau soils are nearly level to gently sloping and are on upland terraces. These soils are well drained. They have a grayish sandy surface layer, a brownish sandy subsurface layer, and a brownish, yellowish, and grayish loamy subsoil.

The Ocilla soils are nearly level and are on lower side slopes on upland terraces. These soils are somewhat poorly drained. They have a brownish sandy surface layer, a brownish and yellowish sandy subsurface layer, and a brownish and grayish loamy subsoil.

The Blanton soils are nearly level to gently sloping and are on upland terraces. These soils are somewhat excessively drained. They have a grayish sandy surface layer, a brownish sandy subsurface layer, and a yellowish and brownish loamy subsoil.

Of minor extent in this map unit are the Noboco, Emporia, Izagora, Albany, Daleville, and Grifton soils. The Noboco and Emporia soils are on nearly level ridges and side slopes and are well drained. The Izagora soils are on nearly level terraces and are moderately well drained. Albany soils are on low sandy ridges and are somewhat poorly drained. The Daleville and Grifton soils are in drainageways and are poorly drained.

Most areas of this map unit are in residential or commercial uses. Small areas are cropland or pastureland. The rest of this map unit, mostly in depressions and drainageways, is woodland.

The soils of this map unit are suited to row crops; however, they have low nutrient-holding capacity and need frequent fertilizing. The soils on sandy ridges become droughty during dry periods. Conservation tillage and cover crops help maintain organic residue near the soil surface and improve the soil moisture and nutrient relationships. The soils on lower ridges and in drainageways or depressions have problems caused by wetness. Surface and subsurface drainage systems can reduce these problems.

The soils of this map unit are well suited or suited to use as pastureland. The major management concerns are low nutrient-holding capacity, droughty conditions during dry periods, and wetness of soils on lower side slopes and in depressions or drainageways. Proper stocking, pasture rotation, and restricted grazing during dry or wet periods help keep the pasture and soil in good condition.

These soils are well suited or suited to use as woodland. Moderate equipment limitations and seedling mortality caused by the sandy texture are concerns in management. The soils on lower side slopes and in drainageways or depressions also have problems during wet periods. Equipment that has wide tires or tracks can reduce equipment limitations caused by the sandy texture and wetness. Seedling mortality caused by droughtiness is reduced if seedlings are planted in furrows.

These soils are well suited to poorly suited to engineering uses related to dwellings and other structures. Wetness is the major concern in management of soils on lower side slopes and in drainageways. Surface and subsurface drainage systems can reduce the problems caused by wetness.

3. Echaw-Leon-Lynn Haven

Moderately well drained, poorly drained, and very poorly drained soils that are sandy throughout

In this map unit, the landscape typically is long, sandy ridges and long, narrow drainageways running parallel to the ridges. The natural vegetation is mostly pine on the ridges and mixed pine and hardwood in the drainageways. Some areas that average about 20 acres have been cleared. Only a few dwellings or structures are in areas of this map unit.

This map unit makes up about 2 percent of the survey area. It is about 55 percent Echaw soils, 11 percent Leon soils, 9 percent Lynn Haven soils, and 25 percent soils of minor extent.

The Echaw soils are nearly level and are on sandy ridges. These soils are moderately well drained. They have a grayish sandy surface layer, a brownish sandy subsurface layer, and an organic stained, brownish and black sandy subsoil.

The Leon soils are nearly level and are on lower ridges and side slopes. These soils are poorly drained. They have a grayish sandy surface layer and subsurface layer and an organic stained, brownish and grayish sandy subsoil.

The Lynn Haven soils are nearly level and are in long, narrow, shallow depressions or drainageways. These soils are very poorly drained. They have a grayish sandy surface layer and subsurface layer and an organic stained, brownish sandy subsoil.

Of minor extent in this map unit are the Chipley, Foreston, Albany, and Rutlege soils. The Chipley and Foreston soils are on the sandy ridges and are moderately well drained. The Albany soils are at an intermediate elevation and are somewhat poorly drained. The Rutlege soils are in the drainageways and depressions and are very poorly drained.

About 40 percent of the acreage in this map unit has been cleared. Most cleared areas are used for row crops. Small cleared patches are used as food plots for wildlife management. The rest of this map unit is woodland.

The soils of this map unit are suited or not suited to row crops. Most of the soils have low nutrient-holding capacity and need frequent fertilizing. The soils on ridges become droughty during dry periods. Conservation tillage and cover crops help maintain organic residue near the soil surface and improve soil moisture and nutrient relationships. The soils at a lower elevation and in drainageways or depressions have problems because of wetness. Surface and subsurface drainage systems can reduce these problems.

These soils are suited or poorly suited to use as pastureland. Wetness and low nutrient-holding capacity are the major concerns in management. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture and soil in good condition.

These soils are suited or poorly suited to use as woodland. Wetness is the major concern in management. Limiting planting and harvesting operations to drier periods can reduce problems caused by wetness. On the poorly drained soils, seedling survival rates improve if seedlings are planted on beds.

These soils are suited or not suited to engineering uses related to dwellings and other structures. Wetness is the main limitation. Surface and subsurface drainage systems can reduce the problems caused by wetness in the Leon soils, but they are not effective for the Lynn Haven soils.

4. Coosaw-Yemassee-Chisolm

Somewhat poorly drained and well drained soils that have a sandy or loamy surface layer and a loamy subsoil

In this map unit, the landscape typically is nearly level to gently sloping ridges or side slopes on upland terraces that are dissected by narrow drainageways or broad swamps. The natural vegetation is mixed pine and hardwood on the ridges and side slopes and mostly hardwood in the drainageways or swamps. A few areas, averaging about 10 acres, have been cleared. Dwellings and other structures are along the highways transecting areas of this map unit.

This map unit makes up about 3 percent of the survey area. It is about 30 percent Coosaw soils, 18 percent Yemassee soils, 12 percent Chisolm soils, and 40 percent soils of minor extent.

The Coosaw soils are nearly level and are on side slopes and low ridges. These soils are somewhat poorly drained. They have a brownish sandy surface layer and subsurface layer and a yellowish and grayish loamy subsoil.

The Yemassee soils are nearly level and are on low ridges. These soils are somewhat poorly drained. They have a grayish loamy surface layer, a brownish loamy subsurface layer, and a grayish loamy subsoil.

The Chisolm soils are nearly level to gently sloping and are on higher ridges. These soils are well drained. They have a brownish sandy surface layer, a yellowish sandy subsurface layer, and a brownish and grayish loamy subsoil.

Of minor extent in this map unit are the Blanton, Yauhannah, Elloree, and Ogeechee soils. The Blanton soils are on the high ridges and are somewhat excessively drained. The Yauhannah soils are on side slopes and lower ridges and are moderately well drained. The Elloree and Ogeechee soils are in drainageways and are poorly drained.

Most areas of this map unit are woodland. Large sections have been clearcut and planted to pine. Small areas have been cleared and are in row crops or pasture. Areas near Ashley Phosphate Road are being developed to commercial and residential uses.

The soils of this map unit are well suited or suited to row crops. The soils on ridges are droughty during dry periods and have low nutrient-holding capacity. The soils on the lower ridges and on side slopes are wet. Conservation tillage and cover crops help maintain organic residue near the soil surface and improve soil moisture and nutrient relationships. Surface and subsurface drainage systems can reduce problems caused by wetness.

These soils are well suited to use as pastureland; however, low nutrient-holding capacity and droughtness are concerns in management. Proper stocking, pasture rotation, and restricted grazing during dry periods help keep the pasture and soil in good condition.

These soils are well suited or suited to use as woodland. Moderate equipment limitations during wet periods and seedling mortality during dry periods are concerns in management. Operating equipment during dry periods reduce equipment limitations, and planting seedlings in furrows reduce seedling mortality.

These soils are suited or poorly suited to engineering uses related to dwellings and other structures. Wetness is the main limitation. Surface and subsurface drainage systems can reduce these problems caused by wetness.

5. Goldsboro-Rains-Lynchburg

Moderately well drained to poorly drained soils that have a sandy or loamy surface layer and a thick, loamy subsoil

In this map unit, the landscape typically has little relief. It is nearly level upland terraces dissected by shallow drainageways (fig. 1). The natural vegetation is mostly hardwoods with a thick understory of greenbrier, cane, and blackberry. Dwellings and farm structures are common. County roads provide access to all areas of this map unit.

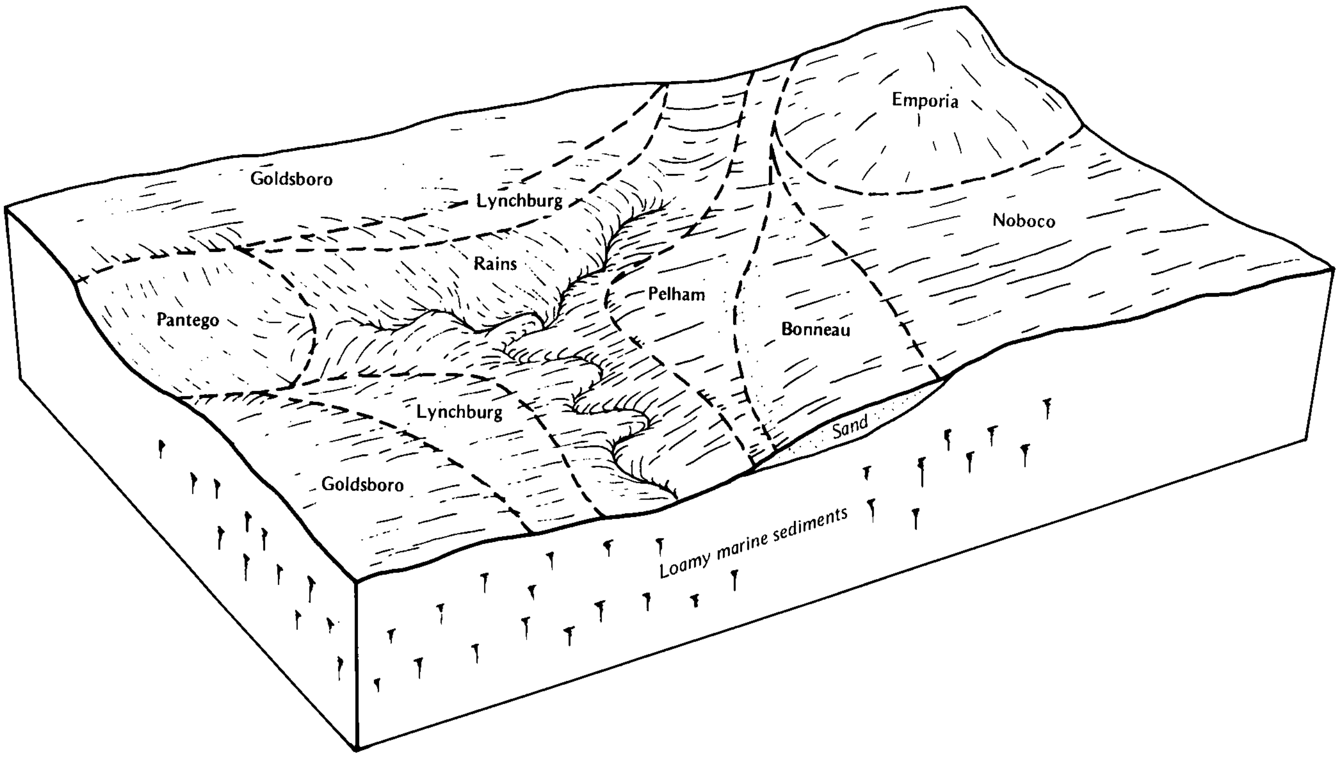


Figure 1.—Typical pattern of soils on upland terraces. The soils formed in loamy marine sediment.

This map unit makes up about 33 percent of the survey area. It is about 23 percent Goldsboro soils, 18 percent Rains soils, 17 percent Lynchburg soils, and 42 percent soils of minor extent.

The Goldsboro soils are on broad upland terraces. These soils are moderately well drained. They have a brownish sandy surface layer and subsurface layer and a loamy subsoil that is yellowish and brownish in the upper part and grayish in the lower part.

The Rains soils are in shallow depressions and drainageways on upland terraces. These soils are poorly drained. They have a grayish loamy surface layer and subsurface layer and a grayish loamy subsoil.

The Lynchburg soils are in intermediate positions on lower ridges on upland terraces. These soils are somewhat poorly drained. They have a brownish sandy surface layer, a brownish loamy subsurface layer, and a grayish loamy subsoil.

Of minor extent in this map unit are the Bonneau, Noboco, Ocilla, Coxville, Grifton, Elloree, Pantego, and Nakina soils. Bonneau and Noboco soils are on higher ridges than the Lynchburg soils and are well drained. The Ocilla soils are on lower ridges and side slopes and are somewhat poorly drained. The Coxville, Grifton, and Elloree soils are in shallow depressions and drainageways and are poorly drained. The Pantego and Nakina soils are in depressions and drainageways and are very poorly drained.

Most areas of this map unit are cropland. Small areas are pastureland. The rest of this map unit, mostly in depressions and drainageways, is woodland.

The soils of this map unit are well suited to row crops. Wetness is a limitation; however, surface and subsurface drainage systems can reduce problems caused by wetness. Residue management increases organic matter content, improves fertility, and helps to maintain tilth.

These soils are well suited to use as pastureland. The major concern in management is wetness, but surface drainage can reduce problems caused by wetness. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture and soil in good condition.

These soils are well suited to use as woodland. The major concern in management is wetness. Planting and harvesting during drier periods can reduce problems caused by wetness. Plant competition can be reduced by proper site preparation, prescribed burning, spraying of herbicides, or girdling.

These soils are suited or poorly suited to engineering uses related to dwellings and other structures. Wetness is the main limitation. Surface and subsurface drainage systems can reduce problems caused by wetness.

6. Jedburg-Daleville-Izagora

Moderately well drained to poorly drained soils that have a loamy surface layer and a thick, loamy subsoil that has a high silt content

In this map unit, the landscape typically is nearly level to gently sloping upland terraces dissected by shallow drainageways and broad, shallow depressions. The natural vegetation in the drainageways or depressions is mixed pine and hardwood with a thick understory of greenbrier, cane, and blackberry. Dwellings and farm structures are common. County roads provide access to all areas of this map unit.

This map unit makes up about 14.5 percent of the survey area. It is about 25 percent Jedburg soils, 20 percent Daleville soils, 14 percent Izagora soils, and 41 percent soils of minor extent.

The Jedburg soils are nearly level and are on broad upland terraces. These soils are somewhat poorly drained. They have a brownish and grayish surface layer, a brownish loamy subsurface layer, and a grayish loamy subsoil.

The Daleville soils are nearly level and are in drainageways and shallow depressions on upland terraces. These soils are poorly drained. They have a brownish loamy surface layer, a grayish loamy subsurface layer, and a grayish loamy subsoil.

The Izagora soils are nearly level to gently sloping and are on upland terraces. These soils are moderately well drained. They have a brownish loamy surface layer and a loamy subsoil that is yellowish and brownish in the upper part and grayish in the lower part.

Of minor extent in this map unit are the Bonneau, Noboco, Emporia, Mouzon, and Grifton soils. Bonneau, Noboco, and Emporia soils are on higher ridges and side slopes and are well drained. The Mouzon and Grifton soils are in major drainageways and swamps and are poorly drained.

About a third of the acreage in this map unit is cropland. Small areas are pastureland. A large part of this map unit near Summerville is being developed and converted to residential uses. The rest of this map unit, mostly in depressions and drainageways, is woodland.

The soils of this map unit are well suited to row crops; however, wetness is a limitation. Surface and subsurface drainage systems can reduce problems caused by wetness. Residue management increases organic matter, improves fertility, and helps to maintain tilth.

These soils are well suited to use as pastureland. The major concern in management is wetness. Surface drainage can reduce problems caused by wetness. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture and soil in good condition.

These soils are well suited to use as woodland; however, wetness is a concern in management. Planting and harvesting trees during drier periods can reduce problems caused by wetness. Plant competition can be reduced by site preparation, prescribed burning, spraying of herbicides, or girdling.

These soils are suited or poorly suited to engineering uses related to dwellings and other structures. Wetness is the main limitation. Surface and subsurface drainage systems can reduce problems caused by wetness.

Dominantly Nearly Level Soils in Major Swamps or on Low Stream Terraces

7. Grifton-Mouzon

Poorly drained soils that have a loamy surface layer and a loamy subsoil

In this map unit, the landscape typically is nearly level flood plains of major creeks and swamps. The natural vegetation is mostly sweetgum, water oak, swamp chestnut oak, and loblolly pine. Understory vegetation is mostly cabbage palmetto, gallberry, and myrtle. Some areas that average about 10 acres have been cleared. Only a few dwellings or structures are in areas of this map unit.

This map unit makes up about 9 percent of the survey area. It is about 43 percent Grifton soils, 20 percent Mouzon soils, and 37 percent soils of minor extent.

The Grifton soils are nearly level and are on flood plains of major swamps. These soils are poorly drained. They have a brownish loamy surface layer, a grayish loamy subsurface layer, and a grayish loamy subsoil.

The Mouzon soils are on low upland terraces. These soils are poorly drained. They have a brownish loamy surface layer, a grayish sandy subsurface layer, a grayish loamy subsoil, and a grayish sandy substratum.

Of minor extent in this map unit are the Ocilla, Elloree, Osier, and Plummer soils. Ocilla soils are on low sandy ridges and are somewhat poorly drained. The Elloree, Osier, and Plummer soils are on low side slopes and in drainageways and are poorly drained.

Most of the acreage in this map unit is used for water-tolerant trees. A few areas have been clearcut and replanted to improved loblolly pine. Other areas have been cleared and are used as pastureland.

The soils in this map unit are poorly suited or not suited to crops, pasture, and engineering uses related to dwellings and other structures. A seasonal high water table and flooding are the main concerns in management.

These soils are well suited or suited to water-tolerant trees. The major concerns in management are severe equipment limitations and seedling mortality rates. Harvesting and planting trees during dry periods can reduce equipment limitations. Equipment that has wide tires or tracks can operate more efficiently on these wet soils. Seedling mortality is reduced if seedlings are planted on raised beds.

8. Mouzon-Brookman-Wahee

Somewhat poorly drained to very poorly drained soils that have a loamy surface layer and a loamy and clayey subsoil

In this map unit, the landscape typically is nearly level, broad, low upland terraces, and drainageways. The natural vegetation is mostly sweetgum, water oak, swamp chestnut oak, cypress, and loblolly pine. Understory vegetation is mostly cabbage palmetto, gallberry, and myrtle. Some areas that average about 10 acres have been cleared. Only a few dwellings or structures are in areas of this map unit.

This map unit makes up about 21 percent of the survey area. It is about 40 percent Mouzon soils, 19 percent Brookman soils, 8 percent Wahee soils, and 33 percent soils of minor extent.

The Mouzon soils are on broad low upland terraces. These soils are poorly drained. They have a brownish loamy surface layer, a grayish sandy subsurface layer, a grayish loamy subsoil, and a grayish sandy substratum.

The Brookman soils are in drainageways. These soils are very poorly drained. They have a black loamy surface layer and a black and grayish clayey and loamy subsoil.

The Wahee soils are on low ridges on upland terraces. These soils are somewhat poorly drained. They have a brownish loamy surface layer, a brownish loamy subsurface layer, and a clayey and loamy subsoil that is brownish in the upper part and grayish in the lower part.

Of minor extent in this map unit are the Eulonia, Yauhannah, Yemassee, Coosaw, Grifton, and Elloree soils. Eulonia and Yauhannah soils are on high ridges and are moderately well drained. The Yemassee and Coosaw soils are on low ridges and are somewhat poorly drained. The Grifton and Elloree soils are in drainageways and are poorly drained.

Most areas of this map unit are woodland that is owned by paper companies. Large areas have been clearcut and replanted to improved loblolly pine. The few small cleared areas are used for crops or recreational purposes.

The Mouzon and Brookman soils are not suited to use as cropland or pastureland because of a seasonal high water table, slowly permeable subsoil, and flooding.

The Wahee soils are well suited to row crops and small grains; however, wetness and the clayey subsoil are concerns in management. Drainage systems and land shaping reduce problems caused by wetness. Incorporating organic matter into the surface layer helps maintain the tilth.

The Wahee soils are well suited to use as pastureland; however, wetness is a concern in management. Surface drainage can reduce problems caused by wetness. Restricted grazing during wet periods reduces soil compaction and improves the quality of forage.

The soils of this map unit are well suited or suited to use as woodland. The major concerns in management are the moderate to severe equipment limitations and seedling mortality. Harvesting and planting trees during dry periods reduce equipment limitations, and equipment that has wide tires or tracks operates more efficiently on the wet soils. Seedling mortality is reduced if seedlings are planted on raised beds.

Because of wetness, flooding, and the high shrink-swell potential of the clayey subsoil, these soils are poorly suited or not suited to engineering uses related to dwellings or other structures.

Dominantly Nearly Level Soils on the Edisto River Flood Plain

9. Chipley-Osier-Lumbee

Moderately well drained and poorly drained soils that are sandy throughout or that have a thin, loamy surface layer and subsoil underlain by a sandy substratum

In this map unit, the landscape typically is a nearly level, broad, flood plain terrace. The natural vegetation is mostly hardwood in the flooded parts of this map unit and is mixed pine and hardwood on the sandy ridge. Most areas of this map unit are owned by large companies. Only a very few dwellings or structures are in areas of this map unit.

This map unit makes up about 6 percent of the survey area. It is about 24 percent Chipley soils, 22 percent Osier soils, 18 percent Lumbee soils, and 36 percent soils of minor extent.

The Chipley soils are on small, rounded or elongated ridges. These soils are moderately well drained. They have a grayish sandy surface layer. The underlying material is sand that is brownish in the upper part and grayish in the lower part.

The Osier soils are in drainageways and depressions adjacent to the Edisto River. These soils are poorly drained. They have a grayish sandy surface layer, and the underlying material is grayish and brownish sand.

The Lumbee soils are on broad flood plains. These soils are poorly drained. They have a grayish loamy surface layer and a grayish loamy subsoil underlain by a grayish sandy substratum.

Of minor extent in this map unit are the Johns, Yauhannah, Grifton, Ogeechee, Rutlege, and Nakina soils. Johns and Yauhannah soils are on high ridges and are moderately well drained. The Grifton and Ogeechee soils are in drainageways and on broad terraces and are poorly drained. The Rutlege and Nakina soils are in drainageways and are very poorly drained.

Most areas of this map unit are woodland. Large areas have been clearcut and planted in improved loblolly pine.

A few cleared areas, averaging about 40 acres, are in row crops.

The soils of this map unit are suited to not suited to row crops. Chipley soils have low nutrient-holding capacity, and fertilizer is needed during the growing season. Osier and Lumbee soils are wet and are subject to flooding. Drainage systems can reduce problems caused by wetness in the Lumbee soils.

These soils are well suited to not suited to use as pastureland. Wetness and low nutrient-holding capacity are major management problems. Drainage systems can reduce problems caused by wetness. Split applications of fertilizers improve forage quality.

These soils are well suited or suited to use as woodland. Because of wetness, equipment should be operated during drier periods and seedlings need to be planted on raised beds.

These soils are poorly suited or not suited to engineering uses related to dwellings and other structures. The major concerns in management are wetness and the hazard of flooding in areas adjacent to the Edisto River. Drainage systems can reduce problems caused by wetness if adequate outlets are available.

Dominantly Nearly Level Soils That are Flooded Daily by Sea Water

10. Capers-Handsboro

Very poorly drained soils that have a loamy surface layer and a clayey substratum or that have a mucky surface layer underlain by a clayey substratum

In this map unit, the landscape typically has little relief. It consists of broad, nearly level areas adjacent to tidal creeks or rivers. These soils are flooded regularly by salt water. The vegetation is dominantly native marsh grasses, such as black needlebrush, smooth cordgrass, and big cordgrass. Most areas have no public roads or structures.

This map unit makes up about 0.5 percent of the survey area. It is about 55 percent Capers soils, 11 percent Handsboro soils, and 34 percent soils of minor extent.

The Capers soils are on tidal flats. These soils are very poorly drained. They have a brownish and black loamy surface layer and are underlain by grayish clay.

The Handsboro soils are in tidal marshes. These soils are very poorly drained. They have a grayish and brownish mucky surface layer and are underlain by grayish clayey material.

Of minor extent in this map unit are the Wahee, Mouzon, and Brookman soils. The Wahee and Mouzon soils are on small islands or low ridges. The Wahee soils are somewhat poorly drained, and the Mouzon soils are poorly drained. The Brookman soils are at the upper end of tidal areas and are very poorly drained.

Nearly all of the acreage of this map unit is in native marsh grasses. Some of the more inland areas were previously used for production of rice.

The soils of this map unit are not suited to row crops, pasture, woodland, or to engineering uses related to dwellings and other structures. Flooding is a major hazard that is difficult to reduce. These soils are best suited to use as natural habitat for wetland wildlife.

Broad Land Use Considerations

The soils in Dorchester County vary widely in their suitability for major land uses. About 15 percent of the land is used for cultivated crops, mainly soybeans, corn, and small grains. This cropland is scattered throughout the county but is concentrated to some extent in general soil map units 5 and 6, which are suited or well suited to crops. Soils in map units 1, 2, 3, and 4 are dominantly sandy and require more land use treatments for good yields. Soils in map units 7, 8, and 9 are in very low areas and are poorly suited or not suited to crops. Some of these soils are subject to frequent flooding. They require intensive land use treatments for satisfactory yields. Soils in map unit 10 are flooded with salt water and are not suited to crops.

About 2 percent of the land in the county is pasture. Except for the soils in general soil map units 7 and 10 and parts of 1, 8, and 9, the soils in Dorchester County are well suited to poorly suited to use as pasture. The high water tables, mild temperatures, and moderately high rainfall enhance the suitability of the soils for pasture grasses. Soils in map unit 10 are flooded almost daily by salt water and are not suited to use as pasture.

About 77 percent of the land in the county is woodland. Soils in general soil map units 1, 2, 3, 4, 5, 6, and 9 are well suited or suited to pines. The soils in map units 1, 2, 3, and 4 are droughty for pines, but satisfactory to good yields are common. The soils in map units 7 and 8 are flooded for long periods and are suited only to water-tolerant hardwoods. Soils in map unit 10 are flooded with salt water and are not suited to trees.

Less than 6 percent of the county is urban or built-up land. Although most of the soils in the county have severe limitations for urban development, small areas in all of the map units except possibly 7 and 10 are suited to development. The high water table in most of the soils is the main limitation for urban development. In addition to having a high water table, some soils in map units 8 and 9 are frequently flooded.

Potential for use as habitat for wildlife is generally high throughout the county. Soils in map units 1, 2, 3, 4, 5, and 6 generally are suited to use as habitat for openland wildlife. Soils in map units 7, 8, and 9 generally are suited to use as habitat for woodland wildlife. The soils in map units 7, 8, 9, and 10 are poorly drained and frequently flooded. These soils provide suitable habitat for wetland wildlife.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and Management of the Soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

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

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, wetness, 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, Bonneau fine sand, 0 to 2 percent slopes, is one of several phases in the Bonneau series.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Water is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of 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.

AbA—Albany fine sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces and sandy ridges. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 20 to 60 acres.

Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The subsurface layer from a depth of 7 to 26 inches is very pale brown fine sand. It is brownish yellow fine sand from 26 to 54 inches. The subsoil from 54 to 59 inches is pale brown sandy loam, and from 59 to 75 inches, it is gray, mottled sandy clay loam.

Included with this soil in mapping are a few small areas of Alpin, Foxworth, and Osier soils. Also included are a few small areas of soils that have slopes of more than 2 percent. The included soils make up about 10 percent of the map unit.

This Albany soil is very strongly acid to medium acid except where lime has been added. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low. The seasonal high water table is 1 foot to 2.5 feet below the surface.

About 60 percent of the acreage of this soil is woodland, and about 20 percent is cropland. The rest is pastureland and in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. The seasonal high water table and low nutrient-holding capacity are major management problems. Surface and subsurface drainage systems help lower the high water table. Water control structures generally are needed with drainage systems to maintain adequate soil moisture levels during droughty periods. Subsurface drains generally need sand filters to prevent clogging. Because of leaching, split applications of fertilizer can help maintain proper plant growth. Residue management, cover crops, and conservation tillage improve natural fertility and reduce wind erosion.

This Albany soil is suited to use as pastureland. Suitable pasture plants include bermudagrass and bahiagrass. Wetness and low nutrient-holding capacity are major management problems. Surface drainage can lower the high water table. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Because of wetness, equipment use limitations, plant competition, and seedling mortality are moderate. Surface drainage can help lower the high water table and reduce wetness problems. Seedlings survive and grow well if competing vegetation is controlled or removed. This can be accomplished by site preparation, prescribed burning, spraying, cutting, or girdling.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. Adding suitable fill material or increasing the size of the absorption field can reduce this limitation. Wetness is also a severe limitation for dwellings without basements. Surface drainage can lower the high water table and reduce wetness problems. This soil has severe limitations for lawns and landscaping because of the low available water capacity and droughtiness during the summer. Frequent, light applications of water can reduce these problems.

This Albany soil is in capability subclass IIIw.

ApB—Alpin fine sand, 0 to 6 percent slopes. This soil is on nearly level to gently sloping upland terraces. It is excessively drained. The areas of this soil are irregular in shape and commonly are about 10 to 300 acres.

Typically, the surface layer is brown fine sand about 7 inches thick. The subsurface layer is very pale brown fine sand from a depth of 7 to 27 inches and is brownish yellow fine sand from 27 to 54 inches. From 54 to 85 inches, it is very pale brown fine sand that has strong brown loamy sand strata that are 0.25 to 1 inch thick.

Included with this soil in mapping are a few small areas of Bonneau, Chipley, and Osier soils. Also included are a few small areas of soils that have slopes of more than 6 percent. The included soils make up about 5 percent of the map unit.

This Alpin soil is very strongly acid to slightly acid except where lime has been added. Permeability is rapid in the upper part of the soil and moderately rapid in the lower part. The available water capacity is very low. This soil does not have a seasonal high water table within 6 feet of the surface.

About 80 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is poorly suited to row crops and small grains because of droughtiness, soil blowing, and low nutrient-holding capacity. Fertilizers are more efficient to crop production if they are applied at intervals rather than in a single application. Soil blowing is a moderate hazard in large cultivated fields. Stripcropping with close-growing crops reduces soil blowing and protects young plants. Conservation tillage, crop residue on or near the surface, and cover crops increase water infiltration, improve natural fertility, and decrease soil blowing.

This Alpin soil is suited to use as pastureland. Major management problems are droughtiness, low available water capacity, and low nutrient-holding capacity. Bermudagrass and bahiagrass grow well if they are properly fertilized and managed. The use of this soil for pasture or hay is also effective in controlling soil blowing.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Because of the sandy texture, equipment use limitations and seedling mortality are moderate. Seedling mortality can be reduced if seedlings are planted in a furrow. Using equipment that has wide tires or tracks reduces the equipment use limitation.

This soil is well suited to most engineering uses related to dwellings and other structures. Seepage could be a problem in densely developed urban areas on side slopes and where absorption fields are near drainageways. Droughtiness is a severe limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Alpin soil is in capability subclass IVs.

BlA—Blanton fine sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces and small ridges adjacent to flood plains. It is somewhat excessively drained. The areas commonly are elongated and are about 10 to 150 acres.

Typically, the surface layer is light brownish gray fine sand about 3 inches thick. The subsurface layer from a depth of 3 to 44 inches is brown and very pale brown fine sand. The subsoil from 44 to 55 inches is brownish yellow sandy clay loam and from 55 to 80 inches is yellowish brown sandy clay and sandy clay loam that have gray mottles.

Included with this soil in mapping are small areas of Ocilla, Goldsboro, Osier, Pelham, and Lynn Haven soils. The included soils make up about 15 percent of the map unit.

This Blanton soil is very strongly acid to medium acid except where lime has been added. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low. The perched seasonal high water table is 5 to 6 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. Major management problems are droughtiness and low nutrient-holding capacity. Irrigation and split applications of fertilizers can reduce these problems. Cover crops and conservation tillage help maintain organic residue near the soil surface, improve soil moisture and nutrient relationships, and reduce problems caused by wind erosion.

This Blanton soil is suited to use as pastureland. Suitable pasture plants include bahiagrass and improved bermudagrass. Major management problems are droughtiness and low nutrient-holding capacity. Proper grazing, weed control, and fertilizer improve the quality of the forage.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Equipment use limitations, plant competition, and seedling mortality are moderate. The sandy texture limits use of equipment, but the limitations can be reduced by using tracks or wide tires on vehicles. Because of the low available water capacity, seedling survival is lower in areas where understory plants are numerous. Site preparation and planting seedlings in furrows can reduce this limitation.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a moderate limitation for septic tank absorption fields. This soil has only slight limitations for dwellings without basements. Droughtiness is a severe limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Blanton soil is in capability subclass IIIs.

BlB—Blanton fine sand, 2 to 6 percent slopes. This soil is on gently sloping upland terraces and small ridges adjacent to flood plains. It is somewhat excessively drained. The areas of this soil are elongated and commonly are 10 to 150 acres.

Typically, the surface layer is light brownish gray fine sand about 3 inches thick. The subsurface layer from a depth of 3 to 44 inches is brown and very pale brown fine sand. The subsoil from 44 to 55 inches is brownish yellow sandy clay loam and from 55 to 80 inches is yellowish brown sandy clay and sandy clay loam that has gray mottles.

Included with this soil in mapping are small areas of Ocilla, Goldsboro, Osier, Pelham, and Lynn Haven soils. The included soils make up about 15 percent of this map unit.

This Blanton soil is very strongly acid to medium acid except where lime has been added. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low. The perched seasonal high water table is 5 to 6 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. Major management problems are droughtiness and low nutrient-holding capacity. Irrigation and split applications of fertilizers can reduce these problems. Cover crops and conservation tillage help maintain organic residue near the soil surface, improve soil moisture and nutrient relationships, and reduce the hazard of erosion.

This Blanton soil is suited to use as pastureland. Suitable pasture plants include bahiagrass and improved bermudagrass. Major management problems are droughtiness and low nutrient-holding capacity. Proper grazing, weed control, and fertilizer improve the quality of the forage.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Because of the sandy texture, equipment use limitations, plant competition, and seedling mortality are moderate. Equipment use limitations can be reduced by using tracks or wide tires on vehicles. Because of the low available water capacity, seedling survival is lower in areas where understory plants are numerous. Site preparation and planting seedlings in furrows can reduce this limitation.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a moderate limitation for septic tank absorption fields. This soil has only slight limitations for dwellings without basements. Droughtiness is severe limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Blanton soil is in capability subclass IIIs.

BoA—Bonneau fine sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces. It is well drained. The areas of this soil are irregular in shape and commonly are 10 to 40 acres.

Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer from a depth of 3 to 27 inches is very pale brown fine sand. The subsoil from 27 to 42 inches is brownish yellow sandy loam, from 42 to 53 inches is light yellowish brown sandy loam that has gray mottles, and from 53 to 61 inches is light gray sandy clay loam. The substratum from 61 to 80 inches is red sandy loam.

Included with this soil in mapping are a few small areas of Blanton, Lynchburg, and Rains soils. Also included are a few areas of soils that have slopes of more than 2 percent. The included soils make up about 10 percent of the map unit.

This Bonneau soil is very strongly acid to medium acid in the surface and subsurface layers except where lime has been added, and it is very strongly acid or strongly acid in the subsoil. Permeability is moderate, and the available water capacity is low to moderate. The seasonal high water table is 3.5 to 5 feet below the surface.

About 60 percent of the acreage of this soil is cropland. The rest is woodland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. Major management problems are droughtiness and low nutrient-holding capacity. Irrigation and split applications of fertilizers can reduce these problems. Cover crops and conservation tillage help maintain organic residue near the soil surface, improve soil moisture and nutrient relationships, and reduce problems caused by wind erosion.

This Bonneau soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass and improved bermudagrass. Droughtiness and low nutrient-holding capacity are concerns in management. Proper grazing, weed control, and fertilizer improve the quality of the forage.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Equipment use limitations, plant competition, and seedling mortality are moderate. The sandy texture limits use of equipment, but these limitations can be reduced by using tracks or wide tires on vehicles. Because of the low available water capacity, seedling survival is lower in areas where understory plants are numerous. Site preparation and planting seedlings in furrows reduce this limitation.

This soil is well suited to most engineering uses; however, wetness is a severe limitation for septic tank absorption fields. This soil has only slight limitations for dwellings without basements. Droughtiness is a moderate limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Bonneau soil is in capability subclass IIs.

BoB—Bonneau fine sand, 2 to 6 percent slopes. This soil is on gently sloping steam terraces. It is well drained. The areas of this soil are irregular in shape and commonly are 10 to 40 acres.

Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer from a depth of 3 to 27 inches is very pale brown fine sand. The subsoil from 27 to 42 inches is brownish yellow sandy loam, from 42 to 53 inches is light yellowish brown sandy clay loam that has gray mottles, and from 53 to 61 inches is light gray sandy clay loam. The substratum from 61 to 80 inches is red sandy loam.

Included with this soil in mapping are a few small areas of Blanton, Lynchburg, and Rains soils. Also included are a few small areas of soils that have slopes of less than 2 percent. These included soils make up about 10 percent of the map unit.

This Bonneau soil is very strongly acid to medium acid in the surface and subsurface layers except where lime has been added, and it is very strongly acid or strongly acid in the subsoil. Permeability is moderate, and the available water capacity is low to moderate. The seasonal high water table is 3.5 to 5 feet below the surface.

About 60 percent of the acreage of this soil is cropland. The rest is woodland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. Major management problems are droughtiness and low nutrient-holding capacity. Irrigation and split applications of fertilizers can reduce these problems. Cover crops and conservation tillage help maintain organic residue near the soil surface, improve soil moisture and nutrient relationships, and reduce problems caused by wind erosion.

This soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass and improved bermudagrass. Major management problems are droughtiness and low nutrient-holding capacity. Proper grazing, weed control, and fertilizer improve the quality of the forage.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. The equipment use limitation, plant competition, and seedling mortality are moderate. The sandy texture limits use of equipment, but this limitation can be reduced by using tracks or wide tires on vehicles. Because of the low available water capacity, seedling survival is lower in areas where understory plants are numerous. Site preparation and planting seedlings in furrows reduce this limitation.

This soil is well suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. This soil has slight limitations for dwellings without basements. Droughtiness is a moderate limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Bonneau soil is in capability subclass IIs.

Br—Brookman clay loam, frequently flooded. This soil is in nearly level, large drainageways mainly in the southeastern part of the county at an elevation of less than 42 feet. It is very poorly drained. The areas of this soil are irregular or elongated in shape and commonly are 200 to 2,000 acres.

Typically, the surface layer is black clay loam about 8 inches thick. The subsoil from a depth of 8 to 22 inches is black clay, from 22 to 49 inches is dark gray clay, and from 49 to 76 inches is gray clay loam and sandy clay loam. The substratum from 76 to 80 inches is grayish brown loamy sand.

Included with this soil in mapping are small areas of Eulonia, Osier, and Wahee soils. The included soils make up about 15 percent of the map unit.

This Brookman soil is very strongly acid to slightly acid in the upper part of the profile and strongly acid to mildly alkaline in the lower part. Permeability is slow, and the available water capacity is moderate to high. The shrink-swell potential is moderate. The seasonal high water table is at the surface to 1 foot below the surface. This soil is subject to frequent flooding for brief to long periods in winter and early in spring.

Almost all areas of this soil are in water-tolerant hardwoods (fig. 2). A few small areas are in engineering uses related to dwellings and other structures or in recreational uses.

This soil is not suited to row crops and small grains because of the seasonal high water table and frequent flooding.

This Brookman soil is poorly suited to use as pastureland because of the seasonal high water table and frequent flooding.

This soil is well suited to water-tolerant trees. Suitable trees include water tupelo and sweetgum. Loblolly pine

Figure 2.—Water-tolerant hardwood trees are the dominant vegetation in most areas of Brookman clay loam, frequently flooded.

is suitable to plant if surface water can be removed. Equipment use limitations, plant competition, and seedling mortality are severe. Harvesting and planting trees during dry periods reduce the equipment limitation. Equipment that has wide tires or tracks can operate more efficiently on this wet soil. Site preparation and planting seedlings on raised beds increase seedling survival.

This soil is not suited to most engineering uses related to dwellings and other structures. Wetness and the hazard of flooding are severe limitations for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping.

This Brookman soil is in capability subclass VIw.

Ca—Capers silty clay loam. This soil is on nearly level broad tidal flats that are flooded with salt water. It is very poorly drained. The areas of this soil commonly are about 200 to 500 acres.

Typically, the surface layer is very dark grayish brown or black silty clay loam 21 inches thick. The underlying material from a depth of 21 to 28 inches is black clay, from 28 to 50 inches is gray clay, from 50 to 58 inches is greenish gray silty clay, and from 58 to 80 inches is pale green sandy clay loam.

Included with this soil in mapping are small areas of Brookman, Mouzon, and Nakina soils. The included soils make up about 10 percent of the map unit.

This Capers soil is medium acid to mildly alkaline. The content of organic matter is high. Permeability is very slow, and the available water capacity is very low. The shrink-swell potential is high. The high water table is between 1 foot above the surface and 1 foot below the surface throughout the year. This soil is flooded with salt water once or twice a day.

Most areas of this soil are in marshland. Because of flooding and the high salt content, this soil is not suited to use as cropland, pastureland, woodland, or to engineering uses related to dwellings and other structures.

This Capers soil is in capability subclass VIIIw.

ChA—Chipley sand, 0 to 2 percent slopes. This soil is on nearly level ridges on flood plains throughout the county. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 5 to 100 acres.

Typically, the surface layer is dark gray sand 7 inches thick. The underlying material from 7 to 30 inches is light yellowish brown and pale brown sand and from 30 to 75 inches is light gray sand.

Included with this soil in mapping are small areas of Leon, Echaw, Coosaw, Ocilla, and Osier soils. The included soils make up about 10 percent of the map unit.

This Chipley soil is very strongly acid to slightly acid. Permeability is rapid, and the available water capacity is low. The seasonal high water table is 2 to 3 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is poorly suited to row crops and small grains because the nutrient-holding capacity and available water capacity are low. For more efficient crop production, fertilizers and irrigation water need to be applied at intervals rather than in a single application. This prevents leaching of fertilizers and development of a high water table.

This Chipley soil is suited to use as pastureland. Suitable pasture plants include bahiagrass and improved bermudagrass. Major management problems are the low nutrient-holding capacity and available water capacity. Proper grazing, weed control, and fertilizers improve the quality of the forage.

This soil is suited to use as woodland. Suitable trees include longleaf pine and loblolly pine. Equipment use limitations and plant competition are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Seedlings have better survival rates if competing vegetation is controlled either by site preparation, prescribed burning, cutting, or girdling.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields and a moderate limitation for dwellings without basements. This soil requires specially designed septic tank absorption fields because of the high water table. The wetness limitation can be reduced around dwellings by installing surface or subsurface drainage systems and by adding suitable fill material. Droughtiness and the low nutrient-holding capacity are severe limitations for lawns and landscaping. Regular applications of water during dry periods and frequent applications of fertilizers can reduce these limitations.

This Chipley soil is in capability subclass IIIs.

CoB—Chisolm fine sand, 0 to 6 percent slopes. This soil is on smooth and convex terraces in the southeastern part of the county. It is well drained. The areas of this soil are irregular in shape and commonly are 10 to 50 acres.

Typically, the surface layer is brown fine sand about 10 inches thick. The subsurface layer from a depth of 10 to 30 inches is brownish yellow loamy fine sand. The subsoil from 30 to 48 inches is yellowish brown fine sandy loam and sandy clay loam; from 48 to 58 inches is mottled light gray, red, and brownish yellow sandy clay loam; and from 58 to 80 inches is mottled light gray fine sandy loam stratified with loamy and sandy material.

Included with this soil in mapping are small areas of Coosaw, Nakina, Ogeechee, Elloree, and Yemassee soils. The included soils make up about 10 percent of the map unit.

This Chisolm soil is very strongly acid to medium acid. Permeability is moderate, and the available water capacity is low. The seasonal high water table is 3.5 to 5 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is in engineering uses related to dwellings and other structures, or it is used as cropland or pastureland.

This soil is suited to row crops and small grains. Major management problems are low nutrient-holding capacity and droughtiness. Split applications of fertilizers help maintain proper plant growth. Irrigation and proper management of crop residue help minimize droughtiness and reduce soil blowing.

This Chisolm soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. Major management problems are low nutrient-holding capacity and droughtiness. Proper grazing, weed control, and fertilizer improve the quality of the forage.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Seedlings have a better survival rate if they are planted in furrows and the competing vegetation is controlled.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a moderate limitation for septic tank absorption fields. This soil has slight limitations for dwellings without basements. Droughtiness is a moderate limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Chisolm soil is in capability subclass IIs.

Cs—Coosaw loamy fine sand. This soil is on nearly level, low ridges in the southeastern part of the county. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 15 to 50 acres.

Typically, the surface layer is dark grayish brown loamy fine sand about 7 inches thick. The subsurface layer from a depth of 7 to 26 inches is very pale brown fine sand. The subsoil from 26 to 43 inches is yellowish brown or brownish yellow sandy clay loam and from 43 to 78 inches is gray and light gray sandy clay loam.

Included with this soil in mapping are small areas of Blanton, Chisolm, Ogeechee, and Elloree soils. The included soils make up about 15 percent of the map unit.

This soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 2 to 3 feet below the surface.

About 60 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains; however, wetness and the low nutrient-holding capacity can cause problems. Surface and subsurface drainage systems help lower the seasonal high water table and reduce wetness problems. Split applications of fertilizers help maintain proper plant growth. Residue management improves fertility and reduces soil blowing.

This Coosaw soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. Major management problems are wetness and low nutrient-holding capacity. Surface and subsurface drainage systems can lower the water table and reduce wetness problems. Proper grazing, weed control, and fertilizers improve the quality of the forage.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently in this wet, sandy soil. Plant competition prevents good early growth of seedlings. Site preparation, prescribed burning, cutting, and girdling help insure maximum growth of seedlings.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields and a moderate limitation for dwellings without basements. This soil requires specially designed septic tank absorption fields because of the high water table. The wetness limitation can be reduced around foundations by using suitable fill material. Droughtiness is a moderate limitation for lawns and landscaping. This limitation can be reduced by regular applications of water.

This Coosaw soil is in capability subclass IIIw.

Cx—Coxville loam. This soil is in nearly level or slightly depressed areas or along small drainageways. It is poorly drained. The areas of this soil are irregular in shape or oval and commonly are 10 to 50 acres.

Typically, the surface layer is very dark gray loam about 6 inches thick. The subsoil from a depth of 6 to 11 inches is grayish brown loam, from 11 to 35 inches is gray clay loam, and from 35 to 80 inches is dark gray clay.

Included with this soil in mapping are small areas of Lynchburg, Pantego, and Pelham soils. The included soils make up about 10 percent of the map unit.

This Coxville soil is extremely acid to strongly acid. Permeability is moderately slow, and the available water capacity is high. The shrink-swell potential is moderate. The seasonal high water table is at the surface to 1.5 feet below the surface. This soil is subject to ponding for brief periods during wet seasons.

About 80 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, wetness and the clayey subsoil can cause problems. Surface drainage and land shaping remove excess surface water and also help lower the seasonal high water table. Residue management helps to maintain tilth and improve the fertility of this soil.

This Coxville soil is well suited to use as pastureland. Suitable pasture plants include tall fescue, bahiagrass, and improved bermudagrass. The major management problem is wetness. Surface drainage and land shaping remove excess water. Restricted grazing during wet periods helps to prevent compaction and improves forage quality.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Equipment use limitations and plant competition are severe, and seedling mortality is moderate. Surface drainage helps lower the seasonal high water table. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Seedlings survive better if they are planted on raised beds. Site preparation, prescribed burning, cutting, and girdling reduce plant competition and help insure maximum growth of seedlings.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness and moderately slow permeability are severe limitations for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This soil is not suited to septic tank absorption fields because of the high water table. Effluent can be pumped to a suitable site to reduce this limitation. Surface drainage and land shaping help move excess surface water away from dwellings and reduce wetness problems for lawns and landscaping.

This Coxville soil is in capability subclass IIIw.

Da—Daleville silt loam. This soil is in slight depressions and drainageways on upland terraces. It is nearly level and poorly drained. The areas of this soil are irregular in shape and commonly are 20 to 200 acres.

Typically, the surface layer is very dark grayish brown silt loam about 8 inches thick. The subsurface layer from a depth of 8 to 15 inches is light gray silt loam. The subsoil from 15 to 26 inches is light gray silt loam, from 26 to 67 inches is light gray silty clay loam, and from 67 to 80 inches is gray clay loam.

Included with this soil in mapping are small areas of Ocilla, Osier, and Grifton soils. Also included are small areas of soils that are subject to ponding from November through March. The included soils make up about 20 percent of the map unit.

The soil is very strongly acid or strongly acid except where lime has been added. Permeability is slow to moderately slow, and the available water capacity is moderate. The shrink-swell potential is moderate. The seasonal high water table is at the surface to 1 foot below the surface.

About 85 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains. The major management problem is the seasonal high water table. In a few areas, ponding is an additional hazard. If this soil is used for cultivated crops, adequate drainage is necessary for good yields. Drainage can be accomplished by using open ditches, tile drains, or a combination of these. Land shaping to remove surface water reduces wet spots in fields. Returning crop residue to the soil improves fertility, reduces crusting, and increases the water infiltration rate.

This Daleville soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass or tall fescue. The major management problem is the seasonal high water table. In some areas, brief ponding is a concern in management. Shallow surface drains can remove excess water and lower the water table. Proper stocking, pasture rotation, timely deferment of grazing, and restricted use during wet periods help keep the pasture and soil in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of the seasonal high water table, the equipment use limitation and seedling mortality are severe and plant competition is moderate. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Planting on raised beds reduces seedling mortality. Site preparation, prescribed burning, cutting, and girdling reduce plant competition.

This soil is poorly suited to most engineering uses related to dwellings and other structures. The seasonal high water table is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. To reduce this limitation for absorption fields, sewage effluent can be pumped to a suitable site. The problems caused by the high water table can also be reduced by adding fill material, by land shaping to remove surface water, and by installing surface drainage systems.

This Daleville soil is in capability subclass IIIw.

Ec—Echaw fine sand. This soil is on nearly level ridges on upland terraces mainly in the central part of the county. It is moderately well drained. The areas of this soil are elongated in shape and commonly are 20 to 100 acres.

Typically, the surface layer is dark gray fine sand about 7 inches thick. The subsurface layer from a depth of 7 to 45 inches is pale brown or light yellowish brown fine sand. The subsoil from 45 to 52 inches is brown loamy fine sand, from 52 to 60 inches is dark reddish brown fine sand, and from 60 to 80 inches is black fine sand.

Included with this soil in mapping are small areas of Albany, Leon, and Osier soils. The included soils make up about 15 percent of the map unit.

This Echaw soil is very strongly acid to medium acid. Permeability is moderately rapid, and the available water capacity is low. The seasonal high water table is 2.5 to 5 feet below the surface.

About 50 percent of the acreage of this soil is woodland. About 35 percent is cropland. The rest is pastureland or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. Major management problems are the low nutrient-holding capacity and low available water capacity. Split applications of fertilizer provide available nutrients. Maintaining crop residue on the surface can improve the soil fertility, prevent rapid drying of the soil surface, and reduce wind erosion.

This Echaw soil is suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. Major management problems are low nutrient-holding capacity and low available water capacity. Rotation grazing and application of fertilizers help maintain high quality forages.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. Because of the sandy texture and seasonal wetness, the equipment use limitation and plant competition are moderate. Using equipment that has specially designed tracks or tires and site preparation reduce these problems.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. Increasing the size of the absorption field and adding suitable fill material can reduce this limitation. This soil has a slight limitation for dwellings without basements and a moderate limitation for lawns and landscaping.

This Echaw soil is in capability subclass IIIs.

Eo—Elloree loamy fine sand, occasionally flooded. This soil is in broad depressions and along drainageways. It is poorly drained. The areas of this soil are irregular in shape and commonly are 15 to 30 acres.

Typically, the surface layer is very dark gray loamy fine sand about 8 inches thick. The subsurface layer from a depth of 8 to 20 inches is dark grayish brown loamy fine sand and from 20 to 23 inches is light brownish gray fine sand. The subsoil from 23 to 72 inches is gray sandy clay loam. The substratum from 72 to 80 inches is light gray loamy sand.

Included with this soil in mapping are small areas of Albany, Nakina, Rutlege, and Yemassee soils. The included soils make up about 30 percent of the map unit.

This Elloree soil is very strongly acid to neutral in the upper part of the profile and strongly acid to moderately alkaline in the lower part. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is at the surface to 1 foot below the surface. This soil is subject to occasional flooding for long periods during wet seasons.

Nearly all areas of this soil is woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the seasonal high water table and occasional flooding.

This Elloree soil is suited to use as pastureland. Bahiagrass is the main pasture plant. Wetness and occasional flooding are major management problems. Surface and subsurface drainage help lower the seasonal high water table and reduce wetness problems. Restricted grazing during wet periods helps to conserve the soil and improve forage quality.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Because of the seasonal high water table, the equipment use limitation, plant competition, and seedling mortality are severe. Drainage systems help lower the water table and reduce wetness problems. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Site preparation and planting seedlings on beds increase seedling survival.

This soil is not suited to engineering uses related to dwellings and other structures. Wetness and the hazard of flooding are severe limitations for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These limitations are difficult and costly to reduce.

This Elloree soil is in capability subclass VIw.

EpB—Emporia loamy fine sand, 2 to 6 percent slopes. This soil is on gently sloping upland terraces. It is well drained. The areas of this soil are irregular in shape and commonly are 10 to 100 acres.

Typically, the surface layer is dark grayish brown loamy fine sand about 5 inches thick. The subsurface layer from a depth of 5 to 14 inches is very pale brown loamy fine sand. The subsoil from 14 to 41 inches is strong brown sandy clay loam and from 41 to 54 inches is mottled reddish yellow, red, and light gray sandy clay loam. The substratum from 54 to 75 inches is light gray sandy clay loam and sandy loam.

Included with this soil in mapping are a few small areas of Jedburg and Daleville soils. These included soils make up about 10 percent of the map unit.

This Emporia soil is very strongly acid to medium acid except where lime has been added. Permeability is moderate in the upper part of the subsoil and moderately slow or slow in the lower part. The available water capacity is moderate. The shrink-swell potential is low in the upper part of the subsoil and moderate in the lower part. The perched seasonal high water table is 3 to 4.5 feet below the surface.

About 70 percent of the acreage of this soil is cropland. The rest is pastureland, woodland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains. Erosion is a moderate hazard. Contour stripcropping, conservation tillage, and grassed waterways can help control erosion. Leguminous cover crops also prevent soil erosion and improve the fertility of this soil.

This Emporia soil is well suited to use as pastureland. Suitable pasture plants include tall fescue, bermudagrass, and bahiagrass. Rotation grazing and restricting grazing during wet periods help maintain good forage quality.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Seedling mortality and plant competition are moderate. Site preparation, prescribed burning, cutting, and girdling help insure maximum growth and survival of seedlings.

This soil is well suited to most engineering uses related to dwellings and other structures. Wetness and the slow permeability are severe limitations for septic tank absorption fields. Specially designed septic tank absorption fields can reduce these limitations. This soil has only slight limitations for dwellings without basements. Droughtiness is a moderate limitation for lawns and landscaping.

This Emporia soil is in capability subclass IIe.

EuA—Eulonia fine sandy loam, 0 to 2 percent slopes. This soil is on broad, nearly level upland terraces in the southeastern part of the county. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 10 to 50 acres.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer from a depth of 4 to 11 inches is light yellowish brown fine sandy loam. The subsoil from 11 to 15 inches is strong brown sandy clay loam, from 15 to 27 inches is yellowish red sandy clay, and from 27 to 49 inches is yellowish red and strong brown sandy clay loam. The substratum from 49 to 80 inches is strong brown loamy fine sand.

Included with this soil in mapping are small areas of Chisolm, Mouzon, Ogeechee, Wahee, and Yemassee soils. The included soils make up about 15 percent of the map unit.

This Eulonia soil is very strongly acid to medium acid except where lime has been added. Permeability is moderately slow, and the available water capacity is moderate. The seasonal high water table is 1.5 to 3.5 feet below the surface.

About 80 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains. Major management problems are the seasonal high water table and clayey subsoil. Drainage ditches and land shaping can remove excess water. Crop residue management and conservation tillage improve the tilth of this soil.

This Eulonia soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. The major management problem is the seasonal high water table, but excess water can be removed by drainage ditches and land shaping.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Equipment use limitations, plant completion, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Plant competition prevents good early growth of seedlings. Site preparation, prescribed burning, cutting, and girdling help insure maximum growth of seedlings.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness and moderately slow permeability are severe limitations for septic tank absorption fields. Modifying absorption fields by increasing the size and adding suitable fill material can reduce these limitations. Wetness is a moderate limitation for dwellings without basements. Drainage and land shaping can reduce problems caused by wetness. Wetness is a moderate limitation for lawns and landscaping. Land shaping and shallow ditches can remove excess surface water.

This Eulonia soil is in capability subclass IIw.

EuB—Eulonia fine sandy loam, 2 to 6 percent slopes. This soil is on gently sloping upland terraces in the southeastern past of the county. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 10 to 50 acres.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer from a depth of 4 to 11 inches is light yellowish brown fine sandy loam. The subsoil from 11 to 15 inches is strong brown sandy clay loam, from 15 to 27 inches is yellowish red sandy clay, and from 27 to 49 inches is yellowish red and strong brown sandy clay loam. The substratum from 49 to 80 inches is strong brown loamy fine sand.

Included with this soil in mapping are small areas of Chisolm, Mouzon, Ogeechee, Wahee, and Yemassee soils. The included soils make up about 15 percent of the map unit.

This soil is very strongly acid to medium acid except where lime has been added. Permeability is moderately slow, and the available water capacity is moderate. The seasonal high water table is 1.5 to 3.5 feet below the surface.

About 80 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table, clayey subsoil, and moderate hazard of erosion are concerns in management. Drainage ditches and land shaping can remove excess water. Residue management, such as cover crops or conservation tillage, helps control erosion.

This Eulonia soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass or bahiagrass. The major management problem is the seasonal high water table; however, excess water can be removed by drainage ditches and land shaping.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Plant competition prevents good early growth of seedlings. Site preparation, prescribed burning, cutting, and girdling help insure maximum growth of seedlings.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness and moderately slow permeability are severe limitations for septic tank absorption fields. Modifying absorption fields by increasing the size and adding suitable fill material reduce these limitations. Wetness is a moderate limitation for dwellings without basements. Wetness is also a moderate limitation for lawns and landscaping. Land shaping can remove excess surface water.

This Eulonia soil is in capability subclass IIe.

FoA—Foreston loamy fine sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces in the central part of the county. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 10 to 100 acres.

Typically, the surface layer is very dark gray loamy fine sand about 8 inches thick. The subsurface layer from a depth of 8 to 13 inches is yellowish brown loamy fine sand. The subsoil from 13 to 23 inches is yellowish brown fine sandy loam, and from 23 to 32 inches is brownish yellow fine sandy loam. A subsurface layer of light brownish gray fine sand is at a depth of 32 to 53 inches. The lower part of the subsoil from 53 to 80 inches is light gray stratified fine sandy loam, sandy clay loam, and loamy sand.

Included with this soil in mapping are small areas of Albany, Blanton, Lynn Haven, Ocilla, and Osier soils. The included soils make up about 20 percent of the map unit.

This Foreston soil is very strongly acid to medium acid except where lime has been added. Permeability is moderately rapid in the upper part of the subsoil and moderate in the lower part. The available water capacity is low to moderate. The seasonal high water table is 2 to 3.5 feet below the surface.

About 55 percent of the acreage of this soil is cropland. About 30 percent is woodland, and the rest is pastureland or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the high water table and low nutrient-holding capacity are concerns in management. Surface and subsurface drainage systems help lower the seasonal high water table. Water control structures may be needed with drainage systems to maintain adequate soil moisture levels for plants. Filters may be needed on subsurface drains to prevent clogging. Because of leaching, split applications of fertilizers are needed to maintain proper plant growth. Residue management helps control wind erosion and improves the fertility of this soil.

This Foreston soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass and bermudagrass. Major management problems are wetness and low nutrient-holding capacity; however, surface drainage systems help lower the seasonal high water table and fertilizing and rotation grazing can improve forage quality.

This soil is well suited to use as woodland. Loblolly pine is the dominant tree. Because of the seasonal high water table, equipment use limitations and plant competition are moderate. Surface drainage and site preparation can reduce problems caused by wetness.

This soil is suited to most engineering uses related to dwellings and other structures. The seasonal high water table is a severe limitation for septic tank absorption fields. Specially designed septic tank absorption fields are needed. Adding suitable fill material or increasing the size of the absorption field can also reduce this limitation. Wetness is a moderate limitation for dwellings without basements, but surface drainage systems help lower the seasonal high water table. The low nutrient-holding capacity and droughtiness are moderate limitations for lawns and landscaping. Annual applications of fertilizer can reduce this limitation.

This Foreston soil is in capability subclass IIw.

FxB—Foxworth fine sand, 0 to 6 percent slopes. This soil is on nearly level to gently sloping upland terraces and ridges. It is moderately well drained. The areas of this soil are irregular in shape and commonly range from 10 to 30 acres.

Typically, the surface layer is very dark grayish brown fine sand about 7 inches thick. The subsoil from a depth of 7 to 14 inches is yellowish brown fine sand, and from 14 to 47 inches is strong brown fine sand. The substratum from 47 to 77 inches is very pale brown fine sand that has gray mottles, and from 77 to 85 inches, it is light gray fine sand.

Included with this soil in mapping are a few small areas of Alpin, Blanton, Leon, and Osier soils. The included soils make up about 15 percent of the map unit.

This Foxworth soil is very strongly acid to medium acid except where lime has been added. Permeability is very rapid, and the available water capacity is low. The seasonal high water table is 3.5 to 6 feet below the surface.

About 80 percent of the acreage of this soil is woodland. The remainder is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is poorly suited to row crops and small grains because of droughtiness and the low nutrient-holding capacity. Irrigation and application of fertilizers reduce these problems and improve crop yields. Residue management, such as planting cover crops and conservation tillage, improve the soil moisture and nutrient relationships and protect this soil from wind erosion.

This Foxworth soil is suited to use as pastureland. Suitable pasture plants include bermudagrass and bahiagrass. Major management problems are droughtiness and low nutrient-holding capacity, but irrigation, rotation grazing, and application of fertilizers can reduce these problems and improve forage quality.

This soil is suited to use as woodland. Longleaf pine is the dominant tree. Because of the sandy texture, equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Seedlings have a better survival rate if they are planted in furrows. Plant competition prevents good early growth of seedlings. Site preparation, prescribed burning, cutting, and girdling help insure maximum growth of seedlings.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness and the poor filtering capacity are moderate limitations for septic tank absorption fields. Adding suitable fill material or increasing the size of the absorption field can reduce these limitations. This soil has slight limitations for dwellings without basements. Droughtiness and the low nutrient-holding capacity are moderate limitations for lawns and landscaping. Regular applications of water and fertilizers can reduce these limitations.

This Foxworth soil is in capability subclass IIIs.

GoA—Goldsboro loamy sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces. It is moderately well drained. The areas of this soil are irregular in shape and commonly range from 10 to 100 acres.

Typically, the surface layer is very dark grayish brown loamy sand about 7 inches thick. The subsurface layer from a depth of 7 to 14 inches is light yellowish brown loamy sand. The subsoil from 14 to 25 inches is yellowish brown sandy clay loam, from 25 to 48 inches is brownish yellow sandy clay loam that has a few gray mottles; and from 48 to 62 inches is gray sandy clay loam. The substratum from 62 to 80 inches is gray sandy clay loam stratified with sandy loam.

Included with this soil in mapping are a few small areas of Bonneau, Chipley, Foreston, Lynchburg, and Rains soils. The included soils make up about 15 percent of the map unit.

This Goldsboro soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 2 to 3 feet below the surface.

About 75 percent of the acreage of this soil is cropland. The rest is pastureland, woodland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. Surface and subsurface drainage systems help lower the seasonal high water table and reduce problems caused by wetness. Residue management can increase organic matter content and improve fertility.

This Goldsboro soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass and bermudagrass. The major management problem is wetness. Rotation grazing and restricting grazing during wet periods improve forage quality. Surface drainage systems can reduce problems caused by wetness.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of a seasonal high water table, equipment use limitations and plant competition are moderate. Surface drainage systems and site preparation can reduce these problems. Equipment that has wide tires or tracks can operate more efficiently on this soil.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. Adding suitable fill material and increasing the size of the absorption field can reduce this limitation. Wetness is a moderate limitation for dwellings without basements, but land shaping and surface drainage can reduce problems caused by wetness. This soil has only slight limitations for lawns and landscaping.

This Goldsboro soil is in capability subclass IIw.

Gr—Grifton fine sandy loam, frequently flooded. This soil is on nearly level flood plains of major swamps and along small drainageways. It is poorly drained. The areas of this soil are irregular or elongated in shape and are 10 to 200 acres.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsurface layer from a depth of 6 to 10 inches is light gray fine sandy loam. The subsoil from 10 to 49 inches is gray sandy clay loam. The substratum from 49 to 61 inches is light gray sandy clay loam, from 61 to 67 inches is gray sandy loam, and from 67 to 80 inches is gray sand.

Included with this soil in mapping are small areas of Mouzon, Osier, Pelham, Plummer, Elloree, and Yemassee soils. The included soils make up about 25 percent of the map unit.

This Grifton soil is very strongly acid to slightly acid in the surface and subsurface layers and medium acid to moderately alkaline in the subsoil. Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is 0.5 to 1 foot below the surface. This soil is subject to frequent flooding for brief periods during wet seasons.

Most areas of this soil are woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the seasonal high water table, frequent flooding, and the absence of adequate drainage outlets.

This Grifton soil is poorly suited to use as pastureland because of flooding, the seasonal high water table, and the absence of adequate drainage outlets.

This soil is suited to water-tolerant trees, including sweetgum and water tupelo. Loblolly pine is suitable to plant if surface water is removed. Because of flooding, seedling mortality, plant competition, and equipment use limitations are severe. Restricting equipment use during wet periods, adequate site preparation, and planting seedlings on raised beds can reduce these management problems.

This soil is not suited to engineering uses related to dwellings and other structures. The hazard of flooding severely limits the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. Flooding is difficult and costly to reduce.

This Grifton soil is in capability subclass VIw.

Hb—Handsboro muck. This soil is in nearly level tidal marshes that are flooded once or twice daily by sea water. It is very poorly drained. The areas of this soil are irregular in shape and commonly are 25 to 100 acres.

Typically, the organic layers are dark reddish gray, dark brown, and dark reddish brown, slightly decomposed to highly decomposed roots and stems about 48 inches thick. The underlying material from a depth of 48 to 80 inches is greenish gray silty clay.

Included with this soil in mapping are small areas of Capers, Mouzon, and Brookman soils. Also included are small spoil areas. The included soils make up about 15 percent of the map unit.

This Handsboro soil is neutral to moderately alkaline when wet and is extremely acid or very strongly acid when dry. Permeability is moderate. The high water table ranges from 3 feet above the surface to 0.5 foot below the surface. This soil is subject to flooding or ponding daily by tidal action.

About 95 percent of the acreage of this soil is in black needlerush and other marsh grasses. The rest has been filled in and is in engineering uses related to dwellings and other structures.

Because of daily flooding by tidal action, this soil is not suited to row crops and small grains, pastureland, woodland, or engineering uses related to dwellings and other structures.

This Handsboro soil is in capability subclass VIIIw.

Hp—Haplaquents, loamy. This map unit consists of wet, loamy soil material in areas where the soil has been removed to a depth of 3 to 15 feet. The areas generally are small but range from 5 to more than 50 acres.

This soil is dominantly loamy to a depth of about 5 feet and sandy below that. It is dominantly gray with mottles of yellow and strong brown.

This soil is low in natural fertility and in content of organic matter. The available water capacity is moderate to low. This soil commonly is very strongly acid but ranges to neutral.

About half of the acreage of this soil is woodland. The rest is used as cropland, pasture, or recreation sites. The suitability of the soil in this map unit for specific land uses varies with texture and drainage.

The soil is suited to pine trees and pasture where excess surface water has been removed. Some areas are adapted to use as cropland, recreation sites, and habitat for wildlife. The soil in this map unit is so variable that onsite investigation is needed to determine its suitability and limitations for any proposed use.

Haplaquents, loamy, is in capability subclass VIw.

IzA—Izagora silt loam, 0 to 2 percent slopes. This soil is on nearly level upland terraces and low ridges. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 20 to 40 acres.

Typically, the surface layer is dark grayish brown silt loam about 6 inches thick. The subsoil from a depth of 6 to 13 inches is yellowish brown silt loam; from 13 to 56 inches is brownish yellow silt loam, silty clay loam, or silty clay that has few to many mottles; and from 56 to 80 inches is light gray silty clay loam.

Included with this soil in mapping are small areas of Jedburg, Bonneau, and Daleville soils. The included soils make up about 15 percent of the map unit.

This Izagora soil is extremely acid to strongly acid except where lime has been added. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The available water capacity is moderate. The seasonal high water table is 1.5 to 2.5 feet below the surface.

About 60 percent of the acreage of this soil is cropland. About 30 percent is woodland. The rest is pastureland or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. Open ditches, tile drains, or a combination of these can be used to lower the water table. Crop residue management improves fertility and increases water infiltration.

This Izagora soil is well suited to use as pastureland. Suitable pasture plants include bermudagrass, bahiagrass, ryegrass, and clovers. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of seasonal wetness, equipment use limitations and plant competition are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Tree seedlings survive and grow well if competing vegetation is controlled or removed. This can be accomplished by site preparation, prescribed burning, cutting, or girdling.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness and slow permeability are severe limitations for septic tank absorption fields. Adding suitable fill material and increasing the size of the absorption field can reduce this limitation. Wetness is a moderate limitation for dwellings without basements. Wetness problems can be reduced by adding fill material, by installing drainage systems, and by land shaping to remove surface water. This soil has only slight limitations for lawns and landscaping.

This Izagora soil is in capability subclass IIw.

IzB—Izagora silt loam, 2 to 6 percent slopes. This soil is on gently sloping upland terraces and low ridges. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 20 to 40 acres.

Typically, the surface layer is dark grayish brown silt loam about 6 inches thick. The subsoil from a depth of 6 to 13 inches is yellowish brown silt loam, from 13 to 56 inches is brownish yellow silt loam, silty clay loam, or silty clay that has few to many mottles, and from 56 to 80 inches is light gray silty clay loam.

Included with this soil in mapping are small areas of Jedburg, Bonneau, and Daleville soils. The included soils make up about 15 percent of the map unit.

This Izagora soil is extremely acid to strongly acid except where lime has been added. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The available water capacity is moderate. The seasonal high water table is 1.5 to 2.5 feet below the surface.

About 60 percent of the acreage of this soil is cropland. About 30 percent is woodland. The rest is pastureland or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table and hazard of erosion are concerns in management. Tile drains can be used to lower the water table. Crop residue management and conservation tillage improve fertility, increase water infiltration, and reduce the hazard of erosion.

This Izagora soil is well suited to use as pastureland. Suitable pasture plants include bermudagrass, bahiagrass, ryegrass, and clovers. Proper stocking, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweet gum. Because of seasonal wetness, equipment use limitations and plant competition are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Tree seedlings survive and grow well if competing vegetation is controlled or removed. This can be accomplished by site preparation, prescribed burning, cutting, or girdling.

This soil is suited to most engineering uses related to dwellings and other structures. Wetness and slow permeability are severe limitations for septic tank absorption fields. Adding suitable fill material and increasing the size of the absorption field can reduce this limitation. Wetness is a moderate limitation for dwellings without basements. Problems caused by wetness can be reduced by adding fill material, by installing drainage systems, and by land shaping to remove surface water. The soil has only slight limitations for lawns and landscaping.

This Izagora soil is in capability subclass IIe.

Jd—Jedburg loam. This soil is on nearly level upland terraces. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 10 to 80 acres.

Typically, the surface layer is very dark gray and dark grayish brown loam about 8 inches thick. The subsoil from a depth of 8 to 15 inches is light yellowish brown loam; from 15 to 36 inches is light gray loam; from 36 to 55 inches is pinkish gray silt loam; from 55 to 75 inches is mottled light gray, yellowish brown, and red loam; and from 75 to 80 inches is light gray sandy clay loam.

Included with this soil in mapping are small areas of Emporia, Ocilla, and Daleville soils. The included soils make up about 10 percent of the map unit.

This soil is very strongly acid to medium acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 0.5 foot to 1.5 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. Surface and subsurface drainage systems can lower the water table. Crop residue management improves fertility, reduces crusting, and increases water infiltration.

This Jedburg soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. The major management problem is the seasonal high water table. Shallow surface drains can be used to reduce the problem caused by wetness. Proper stocking, pasture rotation, timely deferment of grazing, and restricted use during wet periods help keep the pasture and soil in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of the seasonal high water table, equipment use limitations and plant competition are severe. Planting and harvesting need to be carried out during dry periods. Tree seedlings survive and grow well if competing vegetation is controlled or removed. This can be accomplished by site preparation, prescribed burning, cutting, or girdling.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This soil requires specially designed septic tank absorption fields. Limitations for dwellings without basements and for lawns and landscaping can be reduced by using drainage systems and by shaping the surface to direct water from buildings.

This Jedburg soil is in capability subclass IIw.

JoA—Johns loamy sand, 0 to 2 percent slopes. This soil is on nearly level flood plains of the Edisto River. It is somewhat poorly drained to moderately well drained. The areas are irregular in shape and commonly are 10 to 30 acres.

Typically, the surface layer is very dark gray loamy sand about 6 inches thick. The subsurface layer from a depth of 6 to 12 inches is light yellowish brown sandy loam. The subsoil from 12 to 20 inches is brownish yellow sandy clay loam and from 20 to 31 inches is light yellowish brown sandy clay loam that has gray mottles. The substratum from 31 to 80 inches is strong brown, light brownish gray, and light gray sand and coarse sand.

Included with this soil in mapping are small areas of Chipley, Lumbee, and Osier soils. The included soils makeup about 15 percent of the map unit.

This Johns soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 1.5 to 3 feet below the surface. This soil is subject to rare flooding and, in some areas, it is subject to more frequent flooding for very brief periods during winter and spring.

About 80 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains, however, the seasonal high water table and rare flooding are concerns in management. Surface drainage systems help lower the seasonal high water table. Diking is needed in some areas to prevent flooding. Conservation tillage helps to preserve soil moisture and control wind erosion.

This Johns soil is well suited to use as pastureland. Bahiagrass is the main forage on this soil. Surface drainage is needed to lower the seasonal high water table. Restricted grazing during wet periods prevents sod damage and improves forage quality.

This soil is well suited to use as woodland. Loblolly pine is the dominant tree. Because of the seasonal high water table, equipment use limitations and plant competition are moderate. Equipment that has wide tires or tracks operates more efficiently when this soil is wet. Bedding seedlings and surface drainage can reduce problems caused by wetness. Site preparation can reduce plant competition.

This soil is poorly suited to most engineering uses related to dwellings and other structures. The seasonal high water table and possible flooding severely limit the use of this soil for septic tank absorption fields and for dwellings without basements. Adding suitable fill material and increasing the size of the absorption field can reduce these problems. Land shaping, additions of fill material, and surface drainage can reduce wetness around dwellings. Dikes or large amounts of fill material are needed in areas where this soil is subject to flooding. Wetness is a moderate limitation for lawns and landscaping. Surface drainage and land shaping can reduce this limitation.

This Johns soil is in capability subclass IIw.

Le—Leon Sand. This soil is on nearly level upland terraces throughout the county. It is poorly drained. The areas of this soil are irregular in shape and commonly are 10 to 30 acres.

Typically, the surface layer is very dark gray sand about 6 inches thick. The subsurface layer from a depth of 6 to 17 inches is light brownish gray coarse sand. The subsoil from 17 to 25 inches is dark reddish brown coarse sand and from 25 to 65 inches is very dark gray coarse sand. The substratum from 65 to 80 inches is brown coarse sand.

Included with this soil in mapping are a few small areas of Chipley, Echaw, Lynn Haven, Osier, and Seagate soils. The included soils make up about 20 percent of the map unit.

This Leon soil is extremely acid to strongly acid except where lime has been added. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil. The available water capacity is low. The seasonal high water table is at the surface to 1 foot below the surface.

About 85 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is poorly suited to row crops and small grains because of the low nutrient-holding capacity and seasonal high water table. Applying fertilizers at intervals helps to maintain proper plant growth. The fertility of this soil can also be enhanced by planting leguminous cover crops. Surface and subsurface drainage systems help lower the water table. Water control structures may be needed with drainage systems to maintain adequate soil moisture levels for plants.

This Leon soil is suited to use as pastureland. Suitable pasture plants include common bermudagrass and bahiagrass. Major management problems are the low nutrient-holding capacity and the seasonal high water table. Weed control, applications of fertilizers, and rotation grazing help maintain good quality forage.

This soil is poorly suited to use as woodland. Improved loblolly pine is the dominant tree. Seedling mortality, plant competition, and equipment use limitations are moderate. Seedlings have a better survival rate if they are planted on raised beds. Plant competition can be reduced by prescribed burning, site preparation, or herbicides. Equipment that has wide tires or tracks operates more efficiently on this wet soil.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This soil is not suited to septic tank absorption fields because of the high water table. Adding fill material and installing drainage systems can reduce the limitations for dwellings without basements and for lawns and landscaping.

This Leon soil is in capability subclass IVw.

Lm—Lumbee fine sandy loam, occasionally flooded. This soil is on nearly level flood plains, in drainageways of major rivers, and in swamps. It is poorly drained. The areas of this soil are irregular in shape and commonly are 50 to 200 acres.

Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The subsoil from a depth of 5 to 26 inches is gray sandy clay loam and from 26 to 37 inches is gray sandy loam. The substratum from 37 to 70 inches is gray and light gray sand.

Included with this soil in mapping are a few small areas of Osier, Nakina, Rains, and Rutlege soils. The included soils make up about 15 percent of the map unit.

This Lumbee soil is very strongly acid or strongly acid. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is at the surface to 1.5 feet below the surface. This soil is subject to occasional flooding or ponding for brief periods in winter and early in spring.

This soil is used mostly as woodland. In a few small areas along the Edisto River, it is used for recreational purposes.

This soil is not suited to row crops and small grains because of the seasonal high water table and occasional flooding.

This Lumbee soil is suited to use as pastureland. Suitable pasture plants include tall fescue and bahiagrass. Wetness and flooding are major management problems. Surface drainage that has adequate outlets can reduce problems caused by wetness. Diking helps to prevent flooding.

This soil is well suited to use as woodland. Suitable trees include loblolly pine, sweetgum, and water tupelo. Equipment use limitations, plant competition, and seedling mortality are severe. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Site preparation and planting seedlings on raised beds reduce mortality rates and plant competition. Diking helps to prevent flooding from adjacent rivers and streams. If adequate outlets are available, surface drainage can reduce problems caused by wetness.

This soil is not suited to most engineering uses related to dwellings and other structures. Wetness and flooding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These problems are difficult and costly to reduce.

This Lumbee soil is in capability subclass VIw.

Ln—Lynchburg loamy sand. This soil is on nearly level upland terraces. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 20 to 50 acres.

Typically, the surface layer is dark grayish brown loamy sand about 7 inches thick. The subsurface layer from a depth of 7 to 13 inches is brown sandy loam. The subsoil from 13 to 17 inches is yellowish brown sandy clay loam, from 17 to 54 inches is gray sandy clay loam, and from 54 to 80 inches is gray sandy clay.

Included with this soil in mapping are a few small areas of Coxville, Noboco, Ocilla, Pantego, and Pelham soils. The included soils make up about 20 percent of the map unit.

This Lynchburg soil is extremely acid to strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 0.5 foot to 1.5 feet below the surface.

About 80 percent of the acreage of this soil is woodland. The rest has been cleared and drained and is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. Surface and subsurface drainage systems help lower the water table and reduce problems caused by wetness. Planting crops on raised beds helps to prevent damage caused by wetness.

This Lynchburg soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass, bermudagrass, and fescue. The major management problem is the seasonal high water table. Restricted grazing during wet periods help keep the pasture and soil in good condition. Surface drainage systems help lower the seasonal high water table.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of the seasonal high water table, equipment use limitations are moderate and plant competition is severe. Surface drainage can reduce these limitations. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Site preparation, prescribed burning, cutting, and girdling reduce plant competition and help insure maximum growth of seedlings.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. Because of the high water table, this soil requires specially designed septic tank absorption fields. Problems caused by wetness can be reduced by adding fill material around buildings and by land shaping to remove water. Surface drainage systems help lower the high water table around buildings and reduce damage to lawns and shrubs.

This Lynchburg soil is in capability subclass IIw.

Ly—Lynn Haven fine sand. This soil is in slight depressions and drainageways mainly in the central part of the county. It is very poorly drained. The areas of this soil are elongated in shape and commonly are 5 to 100 acres.

Typically, the surface layer is very dark gray fine sand about 10 inches thick. The subsurface layer from a depth of 10 to 19 inches is light gray fine sand. The subsoil from 19 to 38 inches is dark reddish brown fine sand and from 38 to 49 inches is dark brown loamy fine sand. The substratum from 49 to 75 inches is grayish brown fine sand.

Included with this soil in mapping are a few areas of Echaw, Leon, Osier, and Pelham soils. The included soils make up about 20 percent of the map unit.

This soil is extremely acid to strongly acid except where lime has been added. Permeability is moderately rapid to moderate, and the available water capacity is low. The seasonal high water table is at the surface to 1 foot below the surface. In some areas, this soil is ponded for brief periods during rainy seasons.

This soil is used mostly as woodland. A few small areas have been cleared and drained and are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the high water table and the absence of suitable drainage outlets.

This Lynn Haven soil is poorly suited to use as pastureland because of the seasonal high water table and the absence of suitable drainage outlets.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Because of the high water table, equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Removing competing vegetation helps seedling survival and growth. This can be accomplished by site preparation, prescribed burning, spraying, cutting, or girdling. Seedlings have a better survival rate if they are planted on raised beds.

This soil is not suited to most engineering uses related to dwellings and other structures. The high water table is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This limitation is difficult and costly to reduce.

This Lynn Haven soil is in capability subclass IVw.

Mo—Mouzon fine sandy loam, occasionally flooded. This soil is on broad, nearly level, low upland terraces. It is poorly drained. The areas of this soil are irregular or elongated in shape and range from 100 to 2,000 acres.

Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer from a depth of 5 to 8 inches is light gray loamy fine sand. The subsoil from 8 to 61 inches is gray sandy clay loam. The substratum from 61 to 80 inches is light brownish gray and light gray sandy clay loam, sandy loam, and loamy sand.

Included with this soil in mapping are small areas of Brookman, Coosaw, Eulonia, Osier, and Elloree soils. The included soils make up about 20 percent of the map unit.

This Mouzon soil is very strongly acid to slightly acid in the surface and subsurface layers and strongly acid to moderately alkaline in the subsoil. Permeability is slow, and the available water capacity is moderate to high. The seasonal high water table ranges from the surface to 1 foot below the surface. This soil is subject to occasional flooding along major drainageways during wet periods.

This soil is used mostly as woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops, small grains, and pasture. The major management problems are a seasonal high water table, flooding, and a slowly permeable subsoil. Surface drainage can reduce problems caused by wetness. Crop residue management can improve the tilth of this soil.

This soil is well suited to water-tolerant trees. Suitable trees include sweetgum and swamp tupelo. Because of the seasonal high water table, equipment use limitations, seedling mortality, and plant competition are severe. Equipment that has wide tires or tracks can operate more efficiently on this wet soil. Planting and harvesting during dry periods reduce equipment limitations. Seedling mortality is reduced if seedlings are planted on beds. Site preparation, prescribed burning, girdling, and cutting reduce plant competition.

This soil is not suited to most engineering uses related to dwellings and other structures. Flooding and wetness severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These limitations are difficult and costly to reduce.

This Mouzon soil is in capability subclass VIw.

Na—Nakina fine sandy loam. This soil is in shallow depressions and drainageways of small streams. It is nearly level and very poorly drained. The areas of this soil are elongated and commonly are 20 to 40 acres.

Typically, the surface layer is black fine sandy loam about 11 inches thick. The subsurface layer from a depth of 11 to 18 inches is dark gray fine sandy loam. The subsoil from 18 to 61 inches is gray sandy clay loam and clay loam. The substratum from 61 to 80 inches is dark gray or light olive gray sandy clay loam.

Included with this soil in mapping are small areas of Brookman, Lynn Haven, Mouzon, and Yemassee soils. The included soils make up about 15 percent of the map unit.

This Nakina soil is very strongly acid to slightly acid in the surface layer and extremely acid to moderately alkaline in the subsoil. Permeability is moderate or moderately rapid, and the available water capacity is moderate. The seasonal high water table is at the surface to 1 foot below the surface. This soil is subject to rare flooding and to ponding during wet periods.

This soil is used mostly as woodland. A few small areas have been cleared and drained and are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the seasonal high water table and the absence of suitable drainage outlets.

This Nakina soil is not suited to use as pastureland because of the seasonal high water table and the absence of suitable drainage outlets.

This soil is suited to water-tolerant trees. Suitable trees include water oak and sweetgum. Because of wetness and ponding, equipment use limitations, plant competition, and seedling mortality are severe. Planting and harvesting during dry periods reduce equipment limitations. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Seedlings have a better survival rate if they are planted on raised beds.

This soil is not suited to most engineering uses related to dwellings and other structures because of wetness and ponding. These limitations are difficult and costly to reduce.

This Nakina soil is in capability subclass VIw.

NoA—Noboco loamy sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces. It is well drained. The areas of this soil are irregular in shape and commonly are 20 to 50 acres.

Typically, the surface layer is dark grayish brown loamy sand about 6 inches thick. The subsurface layer from a depth of 6 to 14 inches is light yellowish brown loamy sand. The subsoil from 14 to 61 inches is yellowish brown sandy clay loam; from 61 to 70 inches is mottled yellowish brown, gray, and red sandy clay loam; and from 70 to 80 inches is gray sandy clay loam.

Included with this soil in mapping are a few small areas of Albany, Blanton, Bonneau, Lynchburg, and Rains soils. Also included are a few small areas of soils that have slopes of more than 2 percent. The included soils make up about 15 percent of the map unit.

This Noboco soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 2.5 to 4 feet below the surface.

About 75 percent of the acreage of this soil is cropland. The rest is pastureland, woodland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains (fig. 3) and has no major management problems for this use. Residue management, such as conservation tillage and cover crops, improves the natural fertility.

This Noboco soil is well suited to use as pastureland and has no major management problems for this use. Suitable pasture plants include improved bermudagrass and bahiagrass. Rotation grazing and annual applications of fertilizer help maintain good forage quality.

This soil is suited to use as woodland. Suitable trees include loblolly pine and longleaf pine. The moderate plant competition can be reduced by proper site preparation.

This soil is well suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. Increasing the size of the absorption field can reduce this problem. This soil has a slight limitation for dwellings without basements. Droughtiness is a moderate limitation for lawns and landscaping. This can be overcome by supplemental watering during dry periods.

This Noboco soil is in capability class I.

Figure 3.—Noboco loamy sand, 0 to 2 percent slopes, is well suited to use as cropland. Tobacco is one of the main crops on this soil.

OcA—Ocilla sand, 0 to 2 percent slopes. This soil is on nearly level upland terraces on lower side slopes. It is somewhat poorly drained. The areas of this soil commonly are about 10 to 50 acres.

Typically, the surface layer is dark grayish brown sand about 6 inches thick. The subsurface layer from a depth of 6 to 23 inches is yellowish brown and brownish yellow loamy sand. The subsoil from 23 to 52 inches is yellowish brown sandy loam and from 52 to 80 inches is gray and light gray sandy loam.

Included with this soil in mapping are small areas of Pelham, Osier, Seagate, and Rains soils. The included soils make up about 20 percent of the map unit.

This Ocilla soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is low. The seasonal high water table is 1 foot to 2.5 feet below the surface.

About 70 percent of the acreage of this soil is woodland. The rest is cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. The major management problem is a seasonal high water table. Surface and subsurface drainage systems help lower the seasonal high water table and reduce problems caused by wetness. Residue management, such as conservation tillage and cover crops, reduces wind erosion and improves the natural fertility of this soil.

This Ocilla soil is suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. The major management problem is the seasonal high water table. Surface drainage can reduce problems caused by wetness. Rotation grazing and annual applications of fertilizers help maintain good forage quality.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Because of the seasonal high water table, equipment use limitations, plant competition, and seedling mortality are moderate. Surface drainage can reduce problems caused by wetness. Proper site preparation increases seedling survival.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields. Adding suitable fill material or increasing the size of the absorption field can reduce problems caused by wetness. Wetness is a moderate limitation for dwellings without basements and for lawns and landscaping. Surface drainage can reduce problems caused by wetness.

This Ocilla soil is in capability subclass IIIw.

Og—Ogeechee fine sandy loam. This soil is on nearly level upland terraces and in drainageways. It is poorly drained. The areas of this soil are irregular or elongated in shape and commonly are 10 to 200 acres.

Typically, the surface layer is very dark gray fine sandy loam about 4 inches thick. The subsurface layer from a depth of 4 to 12 inches is gray fine sandy loam. The subsoil from 12 to 57 inches is gray sandy clay loam with strata of sand in the lower part. The substratum from 57 to 65 inches is gray fine sand.

Included with this soil in mapping are small areas of Coosaw, Nakina, Mouzon, Osier, and Yauhannah soils. The included soils make up about 20 percent of the map unit.

This Ogeechee soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is at the surface to 0.5 foot below the surface. This soil is subject to rare flooding or ponding for brief periods during wet periods.

This soil is used mostly as woodland. A few small areas have been cleared and are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. In a few areas, ponding is also a major concern. Surface and subsurface drainage systems help lower the water table and reduce problems caused by wetness. Bedding crops improves plant survival rates and prevents seeds from decaying.

This Ogeechee soil is well suited to use as pastureland. Suitable pasture plants include tall fescue, bahiagrass, and bermudagrass. The major management problem is the seasonal high water table. Surface and subsurface drainage systems help lower the water table and reduce problems caused by wetness. Restricted grazing during wet periods helps to prevent compaction and improves the quality of the forage.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of the seasonal high water table, equipment use limitations are severe and plant competition and seedling mortality is moderate. Surface drainage helps to lower the water table and reduces problems caused by wetness. Proper site preparation and harvesting and planting trees during dry periods also reduce the problems caused by wetness. Bedding seedlings helps to lower mortality rates.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness and flooding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This soil is not suited to septic tank absorption fields because of the seasonal high water table. Sewage effluent can be pumped to a suitable site to reduce this problem. The wetness limitation can be reduced for dwellings without basements by adding fill material and by shaping the surface to divert surface water from buildings. Surface drainage on lawns and landscaped areas helps to lower the seasonal high water table and reduces problems caused by wetness.

This Ogeechee soil is in capability subclass IIIw.

Os—Osier loamy fine sand, frequently flooded. This soil is in nearly level, depressional areas and on lowlands adjacent to streams. It is poorly drained. The areas of this soil are elongated or irregular in shape and commonly are 20 to 50 acres.

Typically, the surface layer is very dark gray loamy fine sand about 3 inches thick. The underlying material from a depth of 3 to 80 inches is grayish and brownish fine sand and sand.

Included with this soil in mapping are small areas of Leon, Lynn Haven, Pelham, and Plummer soils. The included soils make up about 30 percent of the map unit.

This soil is extremely acid to medium acid. Permeability is very rapid. The available water capacity is very low, and the seasonal high water table is at the surface to 1 foot below the surface. This soil is subject to frequent flooding for brief periods from December to April.

This soil is used mostly as woodland. A few small areas have been cleared and drained and are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains or to use as pastureland because of the seasonal high water table and frequent flooding.

This soil is suited to water-tolerant trees. Suitable trees include water tupelo and baldcypress. Because of the seasonal high water table and frequent flooding, equipment use limitations, plant competition, and seedling mortality are severe. Removing excess surface water, planting seedlings on raised beds, and controlling competing vegetation by site preparation, controlled burning, cutting, spraying, or girdling can reduce these problems.

This soil is not suited to most engineering uses related to dwellings and other structures. Wetness and frequent flooding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These problems are difficult and costly to reduce.

This Osier soil is in capability subclass Vw.

Pa—Pantego sandy loam. This soil is in nearly level or slightly depressional areas on upland terraces. It is very poorly drained. The areas of this soil are either oval or elongated and commonly are 20 to 60 acres.

Typically, the surface layer is black sandy loam about 12 inches thick. The subsurface layer from a depth of 12 to 18 inches is light brownish gray loamy sand. The subsoil from 18 to 37 inches is gray sandy clay loam, from 37 to 74 inches is gray sandy clay, and from 74 to 80 inches is gray sandy clay loam.

Included with this soil in mapping are a few small areas of Lynchburg, Coxville, and Nakina soils. The included soils make up about 10 percent of the map unit.

This Pantego soil is extremely acid to strongly acid. Permeability is moderate, and the available water capacity is moderate to high. The seasonal high water table is at the surface to 1.5 feet below the surface. Some areas of this soil are ponded briefly during wet periods.

This soil is used mostly as woodland. A few small areas have been drained and cleared for other uses.

This soil is not suited to row crops and small grains because of the seasonal high water table and the absence of suitable drainage outlets.

This Pantego soil is poorly suited to use as pastureland because of the seasonal high water table and the absence of suitable drainage outlets.

This soil is suited to water-tolerant trees, such as baldcypress, water tupelo, and water oak. Because of the seasonal high water table, equipment use limitations, plant competition, and seedling mortality are severe. Site preparation and planting and harvesting during dry periods can reduce equipment use limitations. Seedling mortality is reduced if seedlings are planted on raised beds.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness and the absence of suitable drainage outlets are severe limitations for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These limitations are difficult and costly to reduce.

This Pantego soil is in capability subclass VIw.

Pe—Pelham sand. This soil is in nearly level depressions and drainageways. It is poorly drained. The areas of this soil are elongated or irregular in shape and commonly are 20 to 100 acres.

Typically, the surface layer is very dark gray sand about 7 inches thick. The subsurface layer from a depth of 7 to 14 inches is gray sand and from 14 to 35 inches is light brownish gray loamy sand. The subsoil from 35 to 80 inches is light gray sandy loam and sandy clay loam.

Included with this soil in mapping are a few small areas of Albany, Echaw, Rains, and Seagate soils. The included soils make up about 20 percent of the map unit.

This soil is very strongly acid or strongly acid except where lime has been added. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low. The seasonal high water table is 0.5 foot to 1.5 feet below the surface. Some small areas of this soil are subject to brief ponding during wet periods.

Most areas of this soil are woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains; however, the low nutrient-holding capacity and the seasonal high water table are concerns in management. Drainage can be provided by open ditches or tile drains. Where tile drains are used, a filter is needed to prevent sand from entering tile lines. Water control structures in open ditches help control desired water levels during dry periods. Because of the rapid leaching of nutrients from this soil, more frequent applications of fertilizer and lime are needed for good plant growth. Maintaining crop residue on or near the surface reduces soil blowing, helps to maintain soil tilth and organic matter content, and improves yields.

This Pelham soil is suited to use as pastureland. Bahiagrass is the dominant pasture plant. Major management problems are the seasonal high water table and low nutrient-holding capacity. Shallow surface drains can remove excess surface water. The use of this soil for pasture or hay is also effective in controlling soil blowing. Proper stocking, pasture rotation, deferred grazing, and restricted use during wet periods help keep the pasture and soil in good condition.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Because of the seasonal high water table, equipment use limitations, plant competition, and seedling mortality are severe. Surface drainage helps lower the water table and reduces the problems caused by wetness. Seedlings should be planted on raised beds. Competing vegetation can be controlled by site preparation, prescribed burning, spraying, cutting, or girdling.

This soil is poorly suited to most engineering uses related to dwellings and other structures. It is not suited to septic tank absorption fields because of the seasonal high water table and brief ponding. Sewage effluent can be pumped to a suitable site to reduce this problem. Wetness and ponding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. Additions of fill material, land shaping, and shallow surface drainage can reduce these limitations.

This Pelham soil is in capability subclass IIIw.

Pm—Plummer loamy sand. This soil is in drainageways and depressions. It is nearly level and poorly drained. The areas of this soil are irregular or elongated in shape and commonly are 20 to 50 acres.

Typically, the surface layer is very dark gray loamy sand about 9 inches thick. The subsurface layer from a depth of 9 to 45 inches is gray and light gray sand and from 45 to 58 inches is grayish brown sand. The subsoil from a depth of 58 to 75 inches is light gray sandy loam.

Included with this soil in mapping are small areas of Chipley, Pelham, Seagate, and Rutlege soils. The included soils make up about 20 percent of the map unit.

This Plummer soil is extremely acid to strongly acid. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. The available water capacity is low. The seasonal high water table ranges from 2 feet above the surface to 1.5 feet below the surface. This soil is subject to ponding in winter and in spring.

Most areas of this soil are woodland. Small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the seasonal high water table, ponding, and the absence of suitable drainage outlets.

This Plummer soil is poorly suited to use as pastureland because of the seasonal high water table, ponding, and the absence of suitable drainage outlets.

This soil is poorly suited to use as woodland. Suitable trees include pond pine, baldcypress, and swamp tupelo. Because of wetness and ponding, equipment use limitations, plant competition, and seedling mortality are severe. Site preparation and planting and harvesting during dry periods can reduce these problems. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Seedlings have a better survival rate if they are planted on raised beds.

This soil is not suited to most engineering uses related to dwellings and other structures. Wetness and ponding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These limitations are difficult and costly to reduce.

This Plummer soil is in capability subclass Vw.

Ra—Rains sandy loam. This soil is on nearly level, broad flats and in shallow depressions and drainageways. It is poorly drained. The areas of this soil are elongated or irregular in shape and commonly are 10 to 100 acres.

Typically, the surface layer is very dark gray sandy loam about 4 inches thick. The subsurface layer from a depth of 4 to 9 inches is gray sandy loam. The subsoil from 9 to 42 inches is gray sandy clay loam, from 42 to 56 inches is gray clay loam, and from 56 to 80 inches is sandy clay loam with strata of sandy loam.

Included with this soil in mapping are small areas of Coxville, Goldsboro, Pantego, and Pelham soils. The included soils make up about 20 percent of the map unit.

This soil is very strongly acid or strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is at the surface to 1 foot below the surface.

Most areas of this soil are woodland. Small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, wetness is a limitation. Surface and subsurface drainage systems help lower the seasonal high water table and reduce problems caused by wetness. Planting crops on raised beds helps to prevent seed decay or drowning. Land shaping to remove surface water reduces wet spots in fields. Returning crop residue to the soil improves fertility, reduces crusting, and increases the water infiltration rate.

This Rains soil is well suited to use as pastureland. Suitable pasture plants include bahiagrass and tall fescue. The major management problem is the seasonal high water table. Sufficient drainage is needed to remove excess surface water and to lower the water table. This can be obtained by using shallow surface drains. Proper stocking, pasture rotation, timely deferment of grazing, and restricted use during wet periods help keep the pasture and soil in good condition.

This soil is well suited to use as woodland. Suitable trees include loblolly pine and sweetgum. Because of the seasonal high water table, equipment use limitations, plant competition, and seedling mortality are severe. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Planting and harvesting during dry periods reduces equipment use limitations. Seedling mortality is reduced if seedlings are planted on raised beds. Site preparation, prescribed burning, cutting, and girdling can reduce plant competition.

This soil is poorly suited to most engineering uses related to dwellings and other structures. It is not suited to septic tank absorption fields because of the seasonal high water table. Sewage effluent can be pumped to a suitable site to reduce this limitation. Wetness is a severe limitation for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. This limitation can be reduced around dwellings without basements by adding fill material, by shaping the surface to remove surface water, and by installing surface drainage systems. Surface drainage systems also help to prevent wetness damage to lawns and landscaping.

This Rains soil is in capability subclass IIIw.

Ru—Rutlege loamy fine sand, frequently flooded. This soil is in drainageways of small streams and swamps. It is nearly level and very poorly drained. The areas of this soil are irregular or elongated in shape and commonly are 30 to 100 acres.

Typically, the surface layer is very dark gray loamy fine sand about 13 inches thick. The subsurface layer from a depth of 13 to 21 inches is dark gray loamy fine sand. The underlying material from 21 to 65 inches is light brownish gray and light gray fine sand and from 65 to 75 inches is grayish brown sand.

Included with this soil in mapping are small areas of Albany, Chipley, and Osier soils. The included soils make up about 15 percent of the map unit.

This Rutlege soil is extremely acid to strongly acid. Permeability is rapid, and the available water capacity is low. The seasonal high water table is at the surface to 1 foot below the surface. This soil is subject to frequent flooding or ponding for brief periods in winter and in spring.

Most areas of this soil are woodland. Small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is not suited to row crops and small grains because of the seasonal high water table, flooding or ponding, and the absence of suitable drainage outlets.

This Rutlege soil is poorly suited to use as pastureland because of the seasonal high water table, flooding or ponding, and the absence of suitable drainage outlets.

This soil is suited to water-tolerant trees, such as sweetgum and baldcypress. Because of wetness, flooding, and ponding, equipment use limitations, plant competition, and seedling mortality are severe. Site preparation and planting or harvesting during dry periods can reduce these limitations. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Seedlings have a better survival rate if they are planted on raised beds.

This soil is not suited to most engineering uses related to dwellings and other structures. Wetness, flooding, and ponding severely limit the use of this soil for septic tank absorption fields, for dwellings without basements, and for lawns and landscaping. These limitations are difficult and costly to reduce.

This Rutlege soil is in capability subclass VIw.

Se—Seagate sand. This soil is on nearly level upland terraces. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 5 to 25 acres.

Typically, the surface layer is black sand about 6 inches thick. The subsurface layer from a depth of 6 to 14 inches is gray sand. The subsoil from 14 to 18 inches is dark reddish brown loamy sand. A subsurface layer of yellow sand is at a depth of 18 to 32 inches. The lower part of the subsoil from 32 to 79 inches is gray fine sandy loam.

Included with this soil in mapping are small areas of Echaw, Leon, Pelham, and Elloree soils. The included soils make up about 15 percent of the map unit.

This Seagate soil is extremely acid to medium acid except where lime has been added. Permeability is rapid in the upper layers and moderate in the lower part of the subsoil. The available water capacity is low. The seasonal high water table is 1.5 to 2.5 feet below the surface.

Most areas of this soil are woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is suited to row crops and small grains. The seasonal high water table and low nutrient-holding capacity are concerns in management. Surface and subsurface drainage systems help lower the seasonal high water table. Water control structures in connection with drainage systems help to maintain adequate soil moisture levels for crops throughout the year. Split applications of fertilizer help maintain proper plant growth. Residue management helps to prevent soil blowing, increases organic matter content, and improves natural fertility.

This Seagate soil is suited to use as pastureland. Suitable pasture plants include bahiagrass and bermudagrass. The major management problem is the seasonal high water table, but surface drainage systems can reduce the problems caused by wetness. Rotation grazing, restricted grazing during wet periods, and annual application of fertilizers help keep the pasture and soil in good condition.

This soil is suited to use as woodland. Loblolly pine is the dominant tree. Because of the high water table, equipment use limitations, plant competition, and seedling mortality are moderate. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Seedlings have a better survival rate if they are planted on raised beds. Site preparation, prescribed burning, cutting, and girdling can reduce plant competition.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields and a moderate limitation for dwellings without basements and for lawns and landscaping. This soil requires specially designed septic tank absorption fields because of problems caused by the seasonal high water table. Adding fill material to the building site, shaping the surface to divert water from buildings, and installing drainage systems reduce problems caused by wetness around dwellings without basements and on lawns.

This Seagate soil is in capability subclass IIIw.

Wa—Wahee fine sandy loam. This soil is on broad, nearly level, low upland terraces. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 20 to 40 acres.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsurface layer from 6 to 10 inches is brown fine sandy loam. The subsoil from 10 to 15 inches is yellowish brown clay loam, from 15 to 26 inches is gray clay, and from 26 to 59 inches is gray sandy clay loam. The substratum from 59 to 80 inches is light brownish gray sandy clay loam and clay.

Included with this soil in mapping are small areas of Mouzon and Brookman soils. The included soils make up about 15 percent of the map unit.

This soil is extremely acid to strongly acid except where lime has been added. Permeability is slow, and the available water capacity is moderate to high. The shrink-swell potential is moderate. The seasonal high water table is 0.5 foot to 1.5 feet below the surface. This soil is ponded briefly during wet periods.

Most areas of this soil are woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, wetness and the clayey subsoil are concerns in management. Drainage systems and land shaping can help reduce problems caused by wetness. Crop residue management can improve the tilth of this soil.

This Wahee soil is well suited to use as pastureland. Suitable pasture plants include tall fescue and bahiagrass. Wetness is a major management problem, but surface drainage systems can reduce this problem. Restricted grazing during wet periods reduces soil compaction and improves the quality of the forage.

This soil is suited to use as woodland. Suitable trees include loblolly pine, sweetgum, American sycamore, and water oak. Equipment use limitations and seedling mortality are moderate, and plant competition is severe. Surface drainage and site preparation are needed along with equipment that has wide tires or tracks.

This soil is poorly suited to engineering uses related to dwellings and other structures. It is not suited to use as septic tank absorption fields because of the seasonal high water table and slow permeability. Sewage effluent can be pumped to a suitable site. Moderate shrink-swell potential and wetness are problems for dwellings without basements. Surface drainage and land shaping can reduce these problems. Specially designed foundations help prevent construction problems, such as cracked brick walls or concrete slabs. Wetness is also a problem for lawns and landscaping, but land shaping and drainage systems can remove excess water.

This Wahee soil is in capability subclass IIw.

YaA—Yauhannah loamy fine sand, 0 to 2 percent slopes. This soil is on nearly level, broad terraces in the southeastern part of the county. It is moderately well drained. The areas of this soil are irregular in shape and commonly are 20 to 80 acres.

Typically, the surface layer is grayish brown loamy fine sand about 4 inches thick. The subsurface layer from a depth of 4 to 18 inches is pale yellow loamy fine sand. The subsoil from 18 to 52 inches is brownish yellow fine sandy loam and sandy clay loam and from 52 to 76 inches is light gray sandy clay loam that has mottles in shades of brown, yellow, gray, or red. The substratum from 76 to 80 inches is gray fine sandy loam.

Included with this soil in mapping are small areas of Coosaw, Eulonia, Ogeechee, and Wahee soils. Also included are small areas of soils that have slopes of 2 to 6 percent. The included soils make up about 20 percent of this map unit.

This Yauhannah soil is extremely acid to medium acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 1.5 to 2.5 feet below the surface.

Most areas of this soil are woodland (fig. 4). A few small areas are cropland, pastureland, and in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains; however, the seasonal high water table is a concern in management. Surface or subsurface drainage systems help lower the water table and reduce problems caused by wetness.

This Yauhannah soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. Wetness is a major management problem, but drainage systems can lower the seasonal high water table and reduce the problems caused by wetness. Restricted grazing during wet periods help maintain good forage quality, reduce soil compaction, and prevent sod damage.

This soil is well suited to use as woodland. Suitable trees include loblolly pine, yellow poplar, sweetgum, and American Sycamore. Because of wetness, equipment use limitations and plant competition are moderate. Equipment that has wide tires or tracks operates more efficiently on this soil. Proper site preparation increases seedling survival.

This soil is poorly suited or suited to most engineering uses related to dwellings and other structures. Because of the seasonal high water table, this soil has severe limitations for septic tank absorption fields and requires specially designed systems. Wetness is a moderate limitation for dwellings without basements and for lawns and landscaping. Surface and subsurface drainage systems help lower the high water table. Shaping the surface to divert water from dwellings can reduce problems caused by wetness.

This Yauhannah soil is in capability subclass IIw.

Ye—Yemassee fine sandy loam. This soil is on nearly level terraces in the southeastern part of the county. It is somewhat poorly drained. The areas of this soil are irregular in shape and commonly are 10 to 30 acres.

Typically, the surface layer is very dark gray fine sandy loam about 6 inches thick. The subsurface layer from a

Figure 4.—Yauhannah loamy fine sand, 0 to 2 percent slopes, is well suited to production of Christmas trees and other timber products.

depth of 6 to 10 inches is yellowish brown fine sandy loam and from 10 to 15 inches is light yellowish brown fine sandy loam. The subsoil from 15 to 48 inches is gray sandy clay loam and from 48 to 80 inches is light gray sandy clay loam with strata of clay and sandy loam.

Included with this soil in mapping are a few small areas of Nakina, Ogeechee, Wahee, and Elloree soils. The included soils make up about 25 percent of the map unit.

This Yemassee soil is extremely acid to strongly acid except where lime has been added. Permeability is moderate, and the available water capacity is moderate. The seasonal high water table is 1 foot to 1.5 feet below the surface.

Most areas of this soil are woodland. A few small areas are cropland, pastureland, or in engineering uses related to dwellings and other structures.

This soil is well suited to row crops and small grains. Wetness is the major management problem, but surface and subsurface drainage systems help lower the high water table and reduce the problems caused by wetness. Residue management improves the natural fertility of this soil.

This Yemassee soil is well suited to use as pastureland. Suitable pasture plants include improved bermudagrass and bahiagrass. Wetness is a major management problem because of the seasonal high water table. Surface drainage can reduce problems caused by wetness. Restricted grazing during wet periods help keep the soil in good condition and improve forage quality.

This soil is well suited to use as woodland. Suitable trees include loblolly pine, American sycamore, and yellow poplar. Because of wetness, equipment use limitations are moderate and plant competition is severe. Surface drainage can reduce problems caused by wetness. Equipment that has wide tires or tracks operates more efficiently on this wet soil. Proper site preparation, prescribed burning, cutting, and girdling reduce plant competition.

This soil is poorly suited to most engineering uses related to dwellings and other structures. Wetness is a severe limitation for septic tank absorption fields and for dwellings without basements. Specially designed septic tank absorption fields are needed because of the seasonal high water table. Wetness problems can be reduced around dwellings without basements by adding fill material or by land shaping to divert surface water away from buildings. Wetness is a moderate limitation for lawns and landscaping.

This Yemassee soil is in capability subclass IIw.

Prime Farmland

In this section, prime farmland is defined and discussed, and the prime farmland soils in Dorchester County are listed.

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the nation's short- and long-range needs for food and fiber (fig. 5). The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, state, and federal levels, as well as individuals, must encourage and facilitate the wise use of our nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to producing food, feed, forage, fiber, and oilseed crops. Such soils have properties that are favorable for the

Figure 5.—Noboco loamy sand, 0 to 2 percent slopes, is one of several prime farmland soils in Dorchester County.

economic production of sustained high yields of crops. The soils need only to be treated and managed using acceptable farming methods. The moisture supply, of course, must be adequate, and the growing season has to be sufficiently long. Prime farmland soils produce the highest yields with minimal inputs of energy and economic resources. Farming these soils results in the least damage to the environment.

Prime farmland soils may presently be in use as cropland, pasture, or woodland, or they may be in other uses. They either are used for producing food or fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water control structures. Public land is land not available for farming in national forests, national parks, military reservations, and state parks.

Prime farmland soils usually get an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The acidity or alkalinity level of the soils is acceptable. The soils have few or no rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods and are not subject to frequent flooding during the growing season. The slope ranges mainly from 0 to 6 percent, but most slopes are less than 2 percent.

About 114,400 acres, or 31 percent of Dorchester County, is prime farmland. The areas of prime farmland are scattered throughout the county. In some areas, prime farmland is used as woodland or pastureland.

The following map units, or soils, make up prime farmland in Dorchester County. The location of each map unit is shown on the detailed soil maps at the back of this publication. The extent of each unit is given in table 4. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units." This list does not constitute a recommendation for a particular land use.

Soils that have limitations, such as a high water table or flooding, may qualify as prime farmland if these limitations are overcome by such measures as drainage or flood control. In the following list, the measures needed to overcome the limitations of a map unit, if any, are shown in parentheses after the map unit name. Onsite evaluation is necessary to determine if the limitations have been overcome by the corrective measures.

EpB Emporia loamy fine sand, 2 to 6 percent slopes
EuA Eulonia fine sandy loam, 0 to 2 percent slopes
EuB Eulonia fine sandy loam, 2 to 6 percent slopes
FoA Foreston loamy fine sand, 0 to 2 percent slopes
GoA Goldsboro loamy sand, 0 to 2 percent slopes
IzA Izagora silt loam, 0 to 2 percent slopes
IzB Izagora silt loam, 2 to 6 percent slopes
Jd Jedburg loam (where artificially drained)
JoA Johns loamy sand, 0 to 2 percent slopes (where artificially drained)
Ln Lynchburg loamy sand (where artificially drained)
NoA Noboco loamy sand, 0 to 2 percent slopes
YaA Yauhannah loamy fine sand, 0 to 2 percent slopes
Ye Yemassee fine sandy loam (where artificially drained)

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 avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior 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 for predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for 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 that is in harmony with nature.

Contractors can use this survey to locate sources of sand, roadfill, and topsoil. They can use it to identify areas where 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.

Crops and Pasture

Gene E. Hardee, conservation agronomist, Soil Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

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

About 60,000 acres in Dorchester County was used as pasture, hayland, or cropland in 1982, according to the Soil Conservation Service County Resources Inventory. Of this, about 43,000 acres was used for field crops, mainly soybeans, corn, tobacco, and wheat.

The soils in Dorchester County have good suitability for increased production of food. In 1982, more than 240,000 acres of potentially good cropland was used as woodland or pastureland. In addition, the production of food can be increased by extending the latest crop production technology to all cropland in the county. This soil survey can greatly facilitate the application of such technology.

In general, the soils in the county that are well suited to crops and pasture are also well suited to urban development. According to the 1982 County Resources Inventory, an estimated 14,400 acres in Dorchester County was urban and built-up land. Urban and built-up land in the county has been growing at the rate of about 400 acres per year. The use of this soil survey to help make land use decisions that can influence the future role of farming in the county is discussed in the section "Broad Land Use Considerations.'

Soil erosion is a major concern on less than 1 percent of the land in Dorchester County. It is a hazard on less than 5 percent of the pasture and cropland. Water erosion commonly is a hazard on soils that have slopes of more than 2 percent and on soils that have very long slopes of 1 to 2 percent. The Emporia, Eulonia, Izagora, and Noboco soils have a significant hazard of erosion if they are used for crops. Wind erosion is a concern on clean tilled, sandy soils; however, most of the damage by wind movement of soil particles is damage to young plants rather than actual soil loss.

Loss of the surface layer through erosion reduces productivity on soils and causes sedimentation in streams. Productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, for example, on the Eulonia soils. Erosion also reduces productivity on deep, sandy soils, such as the Alpin, Blanton, Bonneau, Chisolm, and Foxworth soils, largely because of loss of nutrients and fine soil particles. Soil erosion on farmland results in sediment entering streams. Control of the erosion minimizes the pollution of streams by sediment and improves the quality of water for municipal use, for recreation, and for use by fish and wildlife.

Water erosion can best be controlled by using a combination of structural measures, which remove excess water from the field, and cropping and tillage systems, which provide cover and reduce runoff. Structural measures, such as diversions, terraces, and grassed waterways, reduce the length of slope and safely remove excess water from the field.

Contour tillage reduces the amount and velocity of runoff. A cropping system that includes sod crops in the rotation and tillage that leaves plant residue on the surface provide protective surface cover, reduce runoff, and increase infiltration. On livestock farms that require pasture and hay, the legume and grass forage crops in the cropping system reduce erosion and provide nitrogen for the following crop.

In Dorchester County, areas of sloping soils generally are small and irregular in shape and topography. Contour farming, contour stripcropping, and conservation tillage, which reduce the amount and velocity of runoff and do not concentrate the runoff, are effective and compatible on these soils (fig. 6). Information on the design of erosion control practices for each soil in the county is available in the local office of the Soil Conservation Service.

Damage to young plants by soil blowing is a major concern in management on the Alpin, Blanton, Bonneau, Chipley, Chisolm, Coosaw, Echaw, Foreston, and Noboco soils, especially in large, unprotected fields. Conservation tillage, permanent vegetated strips, and strips of close-growing crops protect sandy soils that are subject to blowing.

Soil drainage is a major concern in management on about 75 percent of the soils in Dorchester County. Drainage to the extent needed for cropland and hayland is feasible on many of the soils that have a wetness problem. It generally is feasible on the Albany, Chipley, Coosaw, Coxville, Eulonia, Daleville, Foreston, Goldsboro, Izagora, Jedburg, Johns, Lynchburg, Ogeechee, Pelham, Rains, Seagate, Wahee, Yauhannah, and Yemassee soils and in some areas of the Leon, Lynn Haven, and Lumbee soils. Drainage is generally not feasible on the Brookman, Capers, Elloree, Grifton, Handsboro, Mouzon, Nakina, Osier, Pantego, Plummer, and Rutlege soils because of lack of outlets or the hazard of frequent flooding.

Low available water capacity is a limitation on Albany, Alpin, Blanton, Bonneau, Chipley, Echaw, Foreston, Foxworth, Ocilla, Pelham, and Seagate soils. This limitation can be reduced through crop residue management, proper crop selection, and irrigation. These soils are well suited to pasture grasses, such as bahiagrass and bermudagrass, and drought-tolerant crops, such as rye and grain sorghum. Because of the rapid leaching of nutrients from these soils, frequent applications of fertilizer and lime are needed for good plant growth.

Because soil fertility is naturally low in most soils in Dorchester County, regular applications of lime and fertilizer are needed. Nearly all of the soils are naturally medium acid, strongly acid, or very strongly acid. Regular applications of ground limestone are needed to raise and maintain the pH sufficient for good crop growth. Available phosphorus and potash are naturally low in most of these soils. Fertilizers should be applied in split applications on the deep, sandy soils to reduce losses by leaching. On all soils, additions of lime and fertilizer should be based on the results of soil tests, on the need of the crop, and on the expected level of yields. The Cooperative Extension Service can help in determining the amounts of fertilizer and lime to apply.

Soil tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. The surface layer of most soils in Dorchester County is sand or loamy sand and is granular, porous, and has weak structure. Generally, these conditions are ideal for good germination of seeds and infiltration of water; however, the soils generally are very low in organic matter, and the retention of moisture in the surface layer is low.

Fall tillage generally is not a good practice on the gently sloping soils that are subject to erosion by water or on soils that are subject to soil blowing. If fall tillage operations are performed following corn or soybeans, equipment should be used that leaves a significant amount of crop residue on the surface. On crops, such as tobacco, where fall tillage is an important component in insect and disease control, a winter cover crop should be planted following the tillage.

The soils and climate of Dorchester County are suited to field crops including many that are not commonly grown. Soybeans, corn, and tobacco are the principal row crops. A small acreage is used for grain sorghum. Wheat, oats, and pearl millet are the common close-growing crops. Barley, ryegrass, sudangrass, and several close-growing legumes, such as arrowleaf clover, crimson clover, and sericea lespedeza, can be grown for forage or seed. The principal perennial grasses grown for forage are Pensacola bahiagrass and Coastal bermudagrass.

Special crops in the county include collards, Irish potatoes, mustard, sweet corn, turnips, and pecans. Large areas of cropland can be adapted to these and other special crops, such as blueberries, cabbage, field peas, lima beans, cucumbers, and strawberries. Deep

Figure 6.—Conservation tillage can help control erosion and increase organic matter content. This soil is Goldsboro loamy sand, 0 to 2 percent slopes.

soils that have good natural drainage, moderate to high available water capacity, and that warm early in the spring are especially well suited to many vegetables. In this county, crops generally can be planted and harvested early on Emporia and Noboco soils.

The latest information and suggestions for growing crops can be obtained from local offices of the Cooperative Extension Service and the Soil Conservation Service.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. 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 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 are also 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 insures the smallest possible loss.

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 Soil 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 use as cropland. 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 woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

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

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

Class V soils are not likely to erode, but they have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless a 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); and *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

There are no subclasses in class I because the soils of this class have few limitations. The soils in class V are subject to little or no erosion, but they have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation. Class V contains only the subclasses indicated by *w* or *s*.

The acreage of soils in each capability class and subclass is shown in table 6. The capability classification of each map unit is given in the section "Detailed Soil Map Units."

Woodland Management and Productivity

Norman Runge, forester, Soil Conservation Service, helped prepare this section.

Soils vary in their ability to produce trees. Depth, fertility, texture, and the available water capacity influence tree growth. Elevation, aspect, and climate determine the kinds of trees that can grow on a site. Available water capacity and depth of the root zone are major influences of tree growth. Elevation and aspect are of particular importance in mountainous areas.

This soil survey can be used by woodland managers planning ways to increase the productivity of forest land. Some soils respond better to fertilization than others, and some are more susceptible to landslides and erosion after roads are built and timber is harvested. Some soils require special efforts to reforest. In the section "Detailed Soil Map Units," each map unit in the survey area suitable for producing timber presents information about productivity, limitations for harvesting timber, and management concerns for producing timber. Table 7 summarizes this forestry information and rates the soils for a number of factors to be considered in management. *Slight, moderate*, and *severe* are used to indicate the degree of the major soil limitations to be considered in forest management.

The first tree listed for each soil under the column "Common trees" is the indicator species for that soil. An indicator species is a tree that is common in the area and that is generally the most productive on a given soil (fig. 7).

Ratings of the *erosion hazard* indicate the probability that damage may occur if site preparation activities or harvesting operations expose the soil. The risk is *slight* if no particular preventive measures are needed under ordinary conditions; *moderate* if erosion control measures are needed for particular silvicultural activities; and *severe* if special precautions are needed to control erosion for most silvicultural activities. Ratings of *moderate* or *severe* indicate the need for construction of higher standard roads, additional maintenance of roads, additional care in planning of harvesting and

Figure 7.—Loblolly pine is the indicator species on Albany fine sand, 0 to 2 percent slopes.

reforestation operations, or use of specialized equipment.

Ratings of *equipment limitation* indicate limits on the use of forest management equipment, year-round or seasonal, because of such soil characteristics as slope, wetness, stoniness, or susceptibility of the surface layer to compaction. As slope gradient and length increase, it becomes more difficult to use wheeled equipment. On the steeper slopes, tracked equipment must be used. The rating is *slight* if equipment use is restricted by soil wetness for less than 2 months and if special equipment is not needed. The rating is *moderate* if slopes are steep enough that wheeled equipment cannot be operated safely across the slope, if soil wetness restricts equipment use from 2 to 6 months per year, if stoniness restricts ground-based equipment, or if special equipment is needed to avoid or reduce soil compaction. The rating is *severe* if slopes are steep enough that tracked equipment cannot be operated safely across the slope, if soil wetness restricts equipment use for more than 6 months per year, if stoniness restricts ground-based equipment, or if special equipment is needed to avoid or reduce soil compaction. Ratings of *moderate* or *severe* indicate a need to choose the most suitable equipment and to carefully plan the timing of harvesting and other management operations.

Ratings of *seedling mortality* refer to the probability of death of naturally occurring or properly planted seedlings of good stock in periods of normal rainfall as influenced by kinds of soil or topographic features. *Seedling mortality* is caused primarily by too much water or too little water. The factors used in rating a soil for seedling mortality are texture of the surface layer, depth and duration of the water table, rock fragments in the surface layer, rooting depth, and the aspect of the slope. Mortality generally is greatest on soils that have a sandy or clayey surface layer. The risk is *slight* if, after site preparation, expected mortality is less than 25 percent; *moderate* if expected mortality is between 25 and 50 percent; and *severe* if expected mortality exceeds 50 percent. Ratings of *moderate* or *severe* indicate that it may be necessary to use containerized or larger than usual planting stock or to make special site preparations, such as bedding, furrowing, installing surface drainage, or providing artificial shade for seedlings. Reinforcement planting is often needed if the risk is *moderate* or *severe*.

Ratings of *plant competition* indicate the likelihood of the growth or invasion of undesirable plants. *Plant competition* becomes more severe on the more productive soils, on poorly drained soils, and on soils having a restricted root zone that holds moisture. The risk is *slight* if competition from undesirable plants reduces adequate natural or artificial reforestation but does not necessitate intensive site preparation and maintenance. The risk is *moderate* if competition from undesirable plants reduces natural or artificial reforestation to the extent that intensive site preparation and maintenance are needed. The risk is *severe* if competition from undesirable plants prevents adequate natural or artificial reforestation unless the site is intensively prepared and maintained. A *moderate* or *severe* rating indicates the need for site preparation to ensure the development of an adequately stocked stand. Managers must plan site preparation measures to ensure reforestation without delays.

The potential productivity of *common trees* on a soil is expressed as a *site index*. Common trees are listed in the order of their observed general occurrence. Generally, only two or three tree species dominate.

The soils that are commonly used to produce timber have the yield predicted in cubic feet and board feet. The yield is predicted at the point where mean annual increment culminates. The productivity of the soils in this survey is mainly based on loblolly pine.

The *site index* is determined by taking height measurements and determining the age of selected trees within stands of a given species. This index is the average height, in feet, that the trees attain in a specified number of years. This index applies to fully stocked, even-aged, unmanaged stands.

The *productivity class* represents an expected volume produced by the most important trees, expressed in cubic feet per acre per year. Cubic feet per acre can be converted to board feet by multiplying by a factor of about 5. For example, a productivity class of 114 means the soil can be expected to produce about 568 board feet per acre per year at the point where mean annual increment culminates.

Trees to plant are those that are used for reforestation or, if suitable conditions exist, natural regeneration. They are suited to the soils and will produce a commercial wood crop. Desired product, topographic position (such as a low, wet area), and personal preference are three factors of many that can influence the choice of trees to use for reforestation.

Recreation

In table 8, the soils of the survey area are rated according to the limitations that affect their suitability for recreation. The ratings 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 sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

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 (fig. 8). Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have gentle slopes and are not wet or subject to flooding during the period of use. The surface absorbs rainfall readily but remains firm, and it is not dusty when dry.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, and are not subject to flooding during the period of use.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not

Figure 8.—Izagora silt loam, 0 to 2 percent slopes, is suited to use for camp areas and other recreational activities.

wet or subject to flooding during the season of use. The surface is firm after rains and is not dusty when dry.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Dorchester County has a wide variety of wildlife habitat and a diveristy of game and nongame wildlife species. Habitat varies from the dry sandy ridges and upland hardwood sites to the bottom land hardwood swamps. Farm ponds, lakes, streams, and adjacent wetlands produce favorable conditions for many fish species and for resident and migratory waterfowl.

The principal wildlife species in this county are quail, rabbit, squirrel, deer, turkey, dove, furbearers, and a variety of ducks. Good populations of quail and rabbits are in the western part of the county. Woodland game animals, birds, and ducks are most abundant along the Edisto River.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. Man's activities also influence the quantity and quality of habitat by his decisions to alter the vegetation patterns on the landscape. The kind 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, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, soybeans, millet, sorghums, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are bahiagrass, lovegrass, lespedezas, and clover.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are ragweed, goldenrod, beggarweed, partridge pea, cordgrass, and dropseeds.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and grape. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are pyracantha, Rem-red honeysuckle, autumn olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, cedar, and juniper.

Wetland plants are annual and perennial, wild herbaceous plants that grow on moist or wet sites. Submerged and floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, and slope. Examples of wetland plants are smartweed, wild millet, wildrice, alder, buttonbush, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, slope, and permeability. Examples of shallow water areas are marshes, swamps, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, doves, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy, or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, mink, otter, and beaver.

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. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

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 within a depth of 5 or 6 feet, and 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 must 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 grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, 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 kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to: evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; 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

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to a very firm dense layer, the stone content, soil texture, and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements (fig. 9). The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. Depth to a high water table and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

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 stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of

Figure 9.—Drainage and land shaping are needed if Eulonia fine sandy loam, 2 to 6 percent slopes, is used as sites for dwellings.

the soils. Depth to a high water table, flooding, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil) and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, depth to a high water table, the available water capacity in the upper 40 inches, and the content of salts and sulfidic materials affect plant growth. Flooding, wetness, slope, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 11 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 11 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and that good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

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 is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, depth to a high water table, and flooding affect absorption of the effluent.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

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. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, depth to a high water table, flooding, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive 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 can cause construction problems.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 11 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to a water table, slope, and flooding affect both types of landfill. Texture, highly organic layers, soil reaction, and content of salts affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

Construction Materials

Table 12 gives information about the soils as a source of roadfill, sand, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a probable or improbable source of sand. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

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 soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high 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 engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand. They have at least 5 feet of suitable material, low shrink-swell potential, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10 or a high shrink-swell potential. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 12, only the probability 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 engineering classification of the soil) and the thickness of suitable material. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or a layer of sand that is up to 12 percent silty fines. This material must be at least 3 feet thick. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and marl, are not considered to be sand.

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.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, and toxic material.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, and soils that have an appreciable amount of soluble salts. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of soluble salts, or have a seasonal water table at or near the surface.

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 releases a variety of plant-available nutrients as it decomposes.

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; embankments, dikes, and levees; and aquifer-fed ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives the restrictive features that affect each soil for drainage, irrigation, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and the salinity of the soil.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to layers that affect the rate of water movement, the permeability, the depth to a high water table or depth of standing water if the soil is subject to ponding, the slope, and the susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by slope and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts or sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Wetness and slope affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

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 grain-size distribution, plasticity, and compaction characteristics. These results are reported in table 17.

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 characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil Series and Their Morphology."

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 as much as 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-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, SP-SM.

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 grain-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. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in table 17.

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 Properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major 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 greatly affect the fertility and physical condition of the soil. They influence the soil's adsorption of cations, moisture retention, 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 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major 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 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. A bulk density of more than 1.6 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 refers to the ability of a soil to transmit water or air. The estimates indicate the rate of movement of water through the soil when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

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 in each major soil layer is stated in inches of water per inch of soil. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. 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.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major 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.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

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) to predict the average annual rate of soil loss by sheet and rill erosion. Losses are expressed in tons per acre per year. These estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to wind erosion in cultivated areas. The groups indicate the susceptibility of soil to wind erosion and the amount of soil lost. Soils are grouped according to the following distinctions:

1. Sands, coarse sands, fine sands, and very fine sands. These soils are generally not suitable for crops. They are extremely erodible, and vegetation is difficult to establish.

2. Loamy sands, loamy fine sands, and loamy very fine sands. These soils are very highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

3. Sandy loams, coarse sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control wind erosion are used.

4L. Calcareous loamy soils that are less than 35 percent clay and more than 5 percent finely divided calcium carbonate. These soils are erodible. Crops can be grown if intensive measures to control wind erosion are used.

4. Clays, silty clays, clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control wind erosion are used.

5. Loamy soils that are less than 18 percent clay and less than 5 percent finely divided calcium carbonate and sandy clay loams and sandy clays that are less than 5 percent finely divided calcium carbonate. These soils are slightly erodible. Crops can be grown if measures to control wind erosion are used.

6. Loamy soils that are 18 to 35 percent clay and less than 5 percent finely divided calcium carbonate, except silty clay loams. These soils are very slightly erodible. Crops can easily be grown.

7. Silty clay loams that are less than 35 percent clay and less than 5 percent finely divided calcium carbonate. These soils are very slightly erodible. Crops can easily be grown.

8. Stony or gravelly soils and other soils not subject to wind erosion.

Organic matter is the plant and animal residue in the soil at various stages of decomposition.

In table 15, 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 of a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

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

Hydrologic soil groups are used to estimate runoff from precipitation. Soils are assigned to one of four groups. They are grouped according to the intake of water when the soils 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 high shrink-swell potential, soils that have a permanent 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.

Some of the soils are shown in table 16 with dual hydrologic groups, for example B/D. This means that under natural conditions the soil is in group D, but by artificial methods the water table can be lowered to the point that the soil fits into group B. Onsite investigation is needed, however, to determine the hydrologic group of the soil at any particular location because there are different degrees of drainage and water table control.

Flooding, the temporary covering of the soil surface by flowing water, is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in swamps and marshes or in a closed depression is considered ponding.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely to occur.

Frequency, duration, and probable dates of occurrence are estimated. Frequency generally is expressed as *none, rare, occasional,* or *frequent. None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (there is a near 0 to 5 percent chance of flooding in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (there is a 5 to 50 percent chance of flooding in any year). *Frequent* means that flooding occurs often under normal weather conditions (there is more than a 50 percent chance of flooding in any year). *Common* is used when classification as occasional or frequent does not affect interpretations. Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month). The time of year that floods are most likely to occur is expressed in months. November-May, for example, means that flooding can occur during the period November through May. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding 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 absence of distinctive horizons, which are characteristic of soils that are not subject to flooding.

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.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table, that is, *perched, artesian*, or *apparent;* and the months of the year that the water table commonly is highest. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An *artesian* water table is under hydrostatic head, generally below an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

The two numbers in the "High water table-Depth" column indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that the water table exists for less than a month.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves 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 creates a severely corrosive environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel 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 is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and the amount of sulfates in the saturation extract.

Engineering Index Test Data

Table 17 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The pedons are typical of the series and are described in the section "Soil Series and Their Morphology." The soil samples were tested by South Carolina Department of Highways and Public Transportation.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are: AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); Unified classification—D 2487 (ASTM); Mechanical analysis—T 88 (AASHTO), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 423 (ASTM); Plasticity index—T 90 (AASHTO), D 424 (ASTM).

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(5)*. 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 on laboratory measurements. Table 18 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Ten 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; 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 Paleudults (*Pale*, meaning excessive development, plus *udult*, the suborder of the Ultisols that has an udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic 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 known kind of soil. 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 Paleudults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly 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, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, siliceous, thermic Typic Paleudults.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. There can be some variation in the texture of the surface layer or of the substratum within a series. An example is the Noboco series, which is a member of the fine-loamy, siliceous, thermic family of Typic Paleudults.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other 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 (4)*. Many of the technical terms used in the descriptions are defined in *Soil Taxonomy (5)*. Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Albany Series

The Albany series consists of soils that formed in sandy and loamy marine sediment on nearly level upland terraces throughout the county. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Grossarenic Paleudults.

Albany soils are associated on the landscape with Alpin, Blanton, Bonneau, Chipley, Echaw, Foxworth, Foreston and Ocilla soils. Alpin soils are higher on the landscape than the Albany soils and do not have an argillic horizon. Chipley, Echaw, Foxworth, and Foreston soils are slightly higher on the landscape. Chipley and Foxworth soils are Entisols, and Echaw soils are Spodosols. Foreston soils have a coarse-loamy particle size control section. Blanton and Bonneau soils are slightly higher on the landscape. Blanton soils have a deeper seasonal high water table. Bonneau soils are in an arenic subgroup. Ocilla soils are in positions similar to those of the Albany soils and are in an arenic subgroup.

Typical pedon of Albany fine sand, 0 to 2 percent slopes; about 3.5 miles south of Dorchester, 0.5 mile south of the junction of South Carolina Highway 25 and South Carolina Highway 246, about 0.5 mile northwest on farm road, and 200 feet south of road in a cultivated field.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; common fine roots; slightly acid; abrupt wavy boundary.

E1—7 to 26 inches; very pale brown (10YR 7/4) fine sand; common uncoated sand grains; single grained; loose; few fine roots; few fine pores; slightly acid; gradual wavy boundary.

E2—26 to 54 inches; brownish yellow (10YR 6/8) fine sand; common medium distinct light gray (10YR 7/1) mottles and few medium distinct yellowish brown (10YR 5/8) mottles; single grained; loose; few fine roots; few fine pores; medium acid; gradual wavy boundary.

Bt—54 to 59 inches; pale brown (10YR 6/3) sandy loam; many medium distinct gray (10YR 6/1) mottles and common medium distinct yellowish brown (10YR 5/8) mottles; weak fine subangular blocky structure; very friable; few fine roots; very few faint clay films along old root channels; strongly acid; clear wavy boundary.

Btg1—59 to 68 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/6) mottles and few medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine pores; very strongly acid; clear wavy boundary.

Btg2—68 to 75 inches; gray (10YR 6/1) sandy clay loam; many coarse distinct yellowish brown (10YR 5/8) mottles and common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; very strongly acid.

The solum is 60 to more than 80 inches thick.

The A horizon has hue of 10YR, value of 3 to 6, and chroma of 1 or 2. It commonly is fine sand but ranges to sand, loamy sand, or loamy fine sand.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 8. It has few to many uncoated sand grains. Most pedons have mottles in shades of brown, yellow, or gray. The E horizon is sand, fine sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. It has mottles in shades of brown, yellow, or gray. The Bt horizon is sandy loam or sandy clay loam.

The Btg horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. It has mottles in shades of brown, yellow, or gray. The Btg horizon is sandy clay loam.

Alpin Series

The Alpin series consists of soils that formed in thick, sandy marine sediment on upland terraces. Slopes are 0 to 6 percent. These soils are thermic, coated Typic Quartzipsamments.

Alpin soils are associated on the landscape with Albany, Blanton, Bonneau, Chipley, Foxworth, Osier, and Pelham soils. None of these soils have lamella, and all are lower on the landscape than the Alpin soils. Albany and Blanton soils are in a grossarenic subgroup. Bonneau and Pelham soils are in an arenic subgroup. Chipley soils have gray mottles within 30 inches of the surface. Osier and Pelham soils are dominantly gray throughout.

Typical pedon of Alpin fine sand, 0 to 6 percent slopes; about 6 miles east of Grover, about 0.7 mile southeast of the intersection of South Carolina Highway 19 and South Carolina Highway 135, and 50 feet south of highway.

A—0 to 7 inches; brown (10YR 5/3) fine sand; single grained; loose; many fine and common medium roots; strongly acid; clear smooth boundary.

E1—7 to 27 inches; very pale brown (10YR 7/4) fine sand; few uncoated sand grains; single grained; loose; common fine and medium roots and few large roots; medium acid; gradual wavy boundary.

E2—27 to 54 inches; brownish yellow (10YR 6/6) fine sand; few uncoated sand grains; single grained; loose; common medium and few large roots; medium acid; clear smooth boundary.

E&B—54 to 85 inches; very pale brown (10YR 7/3) fine sand; many uncoated sand grains; single grained; loose; common discontinuous strong brown (7.5YR 5/6) loamy sand lamella 0.25 to 1 inch thick; strongly acid.

Depth to horizons containing lamella ranges from 40 to 70 inches.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 1 to 3. It is fine sand or sand.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. It has few to many uncoated sand grains. This horizon is sand or fine sand.

The E&B horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. The lamella in this horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 or 6. This horizon is sand or fine sand, and the lamella is loamy sand, loamy fine sand, or sandy loam.

Blanton Series

The Blanton series consists of soils that formed in sandy and loamy marine sediments throughout the county. Slopes are 0 to 6 percent. These soils are loamy, siliceous, thermic Grossarenic Paleudults.

Blanton soils are associated on the landscape with Albany, Alpin, Bonneau, Coosaw, and Ocilla soils. Alpin and Bonneau soils are in positions similar to those of the Blanton soils. Alpin soils are sandy to 80 inches and have lamella between depths of 40 and 70 inches. Albany, Coosaw, and Ocilla soils are lower on the landscape. Albany soils have a higher seasonal water table. Bonneau, Coosaw, and Ocilla soils are in an arenic subgroup.

Typical pedon of Blanton fine sand, 0 to 2 percent slopes; about 4.8 miles southeast of Harleyville on U.S. Highway 178, about 0.2 mile west on unimproved county road, and 200 feet northwest of road.

A—0 to 3 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; many fine and few medium roots; medium acid; clear smooth boundary.

E1—3 to 8 inches; brown (10YR 5/3) fine sand; single grained; loose; common fine and few medium roots; medium acid; gradual wavy boundary.

E2—8 to 44 inches; very pale brown (10YR 7/3) fine sand; few fine distinct brownish yellow (10YR 6/6) mottles; single grained; loose; few uncoated sand grains; few fine roots; slightly acid; clear smooth boundary.

Bt1—44 to 55 inches; brownish yellow (10YR 6/6) sandy clay loam; few medium distinct yellowish red (5YR 4/6) mottles and common medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; medium acid; gradual smooth boundary.

Bt2—55 to 64 inches; yellowish brown (10YR 5/6) sandy clay; common medium distinct brownish yellow (10YR 6/8) and light gray (10YR 7/1) mottles and few medium distinct red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; very few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—64 to 80 inches; yellowish brown (10YR 5/6) sandy clay loam; strata of fine sandy loam; many medium distinct light gray (10YR 7/1) mottles and common medium distinct red (2.5YR 4/8) and brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; friable; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 4 to 6, and chroma of 1 to 3. It is fine sand or sand.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 8. Some pedons have few to many pockets of uncoated sand grains. The E horizon is sand, fine sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 8. It has mottles in shades of red, brown, or yellow. The lower part of the Bt horizon has mottles in shades of gray. The Bt horizon is sandy clay loam. Some pedons have thin subhorizons of sandy loam, fine sandy loam, or sandy clay.

Bonneau Series

The Bonneau series consists of soils that formed in sandy and loamy marine sediments on nearly level to gently sloping upland terraces. Slopes are 0 to 6 percent. These soils are loamy, siliceous, thermic Arenic Paleudults.

Bonneau soils are associated on the landscape with Blanton, Coxville, Goldsboro, Lynchburg, Noboco, Pelham, and Rains soils. Blanton soils are higher on the landscape than the Bonneau soils and are in a grossarenic subgroup. Noboco soils are in positions similar to those of the Bonneau soils, and Goldsboro soils are in slightly lower positions on the landscape. These soils are not in an arenic subgroup. Coxville, Lynchburg, Pelham, and Rains soils are lower on the landscape and are Aquults. Coxville soils also have more than 35 percent clay in the control section.

Typical pedon of Bonneau fine sand, 0 to 2 percent slopes; about 4.5 miles south of Byrds on South Carolina Highway 161, about 2.5 miles southeast on woods road that bends toward the north, and 100 feet west of road.

A—0 to 3 inches; gray (10YR 5/1) fine sand; single grained; loose; few large roots, common medium roots, and many fine roots; strongly acid; clear smooth boundary.

E—3 to 27 inches; very pale brown (10YR 7/3) fine sand; common medium faint white (10YR 8/2) sand grains and few medium distinct gray (10YR 5/1) stains along old root channels; single grained; loose; common fine roots, medium acid; clear smooth boundary.

Bt1—27 to 42 inches; brownish yellow (10YR 6/6) sandy loam; common medium faint yellowish brown (10YR 5/8) mottles and common medium distinct pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; very friable; few fine roots; very few faint clay films on faces of peds; few fine pores; very strongly acid; gradual smooth boundary.

Bt2—42 to 53 inches; light yellowish brown (10YR 6/4) sandy loam; common medium prominent red (2.5YR 4/8) mottles and common medium distinct gray (10YR 6/1) mottles; weak medium subangular blocky structure; very friable; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg—53 to 61 inches; light gray (10YR 7/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) and few medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

C—61 to 80 inches; red (2.5YR 4/6) sandy loam; common medium distinct light gray (10YR 7/1) and common medium distinct brownish yellow (10YR 6/8) mottles; massive; very friable; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness. The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 3. It commonly is fine sand, but ranges to sand, loamy sand, or loamy fine sand.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. Some pedons have mottles of uncoated sand grains. This horizon is fine sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 8. It has mottles in shades of red, yellow, and brown with gray mottles in the lower part. This horizon is commonly sandy loam or sandy clay loam but ranges to sandy clay in the lower part.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, yellow, and brown. This horizon is sandy loam or sandy clay loam. It is sandy clay in some pedons.

The C horizon has hue of 2.5YR to 10YR, value of 4 to 7, and chroma of 1 to 8. It is sand, loamy sand, or sandy loam.

Brookman Series

The Brookman series consists of soils that formed in clayey marine sediment on nearly level, large drainageways mainly in the southeastern part of the county. Slopes are dominantly less than 1 percent. These soils are fine, mixed, thermic Typic Umbraqualfs.

Brookman soils are associated on the landscape with Eulonia, Mouzon, and Wahee soils. Eulonia and Wahee soils are higher on the landscape than the Brookman soils and have colors that have chroma of 3 or more in some part of the subsoil. Mouzon soils are slightly higher on the landscape and have an ochric epipedon.

Typical pedon of Brookman clay loam, frequently flooded; about 4 miles northeast of Delemars crossroads on South Carolina Highway 165, about 2.3 miles south on paper company road, and 50 feet north of large drainage ditch.

A—0 to 8 inches; black (10YR 2/1) clay loam; weak medium subangular blocky structure; slightly sticky; many fine roots, common medium roots and few large roots; very strongly acid; gradual smooth boundary.

Btg1—8 to 22 inches; black (10YR 2/1) clay; weak medium prismatic structure; very sticky; common fine roots; few fine pores; few distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Btg2—22 to 49 inches; dark gray (10YR 4/1) clay; weak medium prismatic structure; very sticky; few fine roots and pores; common distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Btg3—49 to 57 inches; gray (10YR 5/1) clay loam; weak prismatic structure; slightly sticky; common distinct clay films on faces of peds; medium acid; gradual wavy boundary.

BCg—57 to 76 inches; gray (10YR 5/1) sandy clay loam; common coarse distinct dark gray (10YR 4/1) mottles along old root channels and on faces of peds; weak medium prismatic structure; nonsticky; neutral; clear smooth boundary.

Cg—76 to 80 inches; grayish brown (10YR 5/2) loamy sand; massive; very friable; neutral.

The solum ranges from 40 to more than 60 inches in thickness.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It commonly is clay loam but ranges to fine sandy loam or loam.

The Btg horizon has hue of 10YR, value of 2 to 5, and chroma of 1 or 2. Some pedons have mottles in shades of red, yellow, or brown. This horizon is clay loam, sandy clay, or clay.

The BCg horizon has hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 or 2. Some pedons have mottles in shades of red, yellow, brown, or gray. This horizon ranges from sandy clay loam to clay and has stratified lenses of loamy sand or sandy loam.

The Cg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2. Some pedons have red or brown mottles. This horizon ranges from sand to clay, or it is stratified with variable textures.

Capers Series

The Capers series consists of soils that formed in silty and clayey marine sediments on nearly level, broad tidal flats and along lower reaches of larger streams flowing into the tidal flats. The elevation is 2 to 5 feet above sea level. Slopes are dominantly less than 1 percent but range from 0 to 2 percent. These soils are fine, mixed, nonacid, thermic Typic Sulfaquents.

Capers soils are associated on the landscape with Brookman and Mouzon soils. Brookman and Mouzon soils are higher on the landscape than the Capers soils and have an argillic horizon. Also, Brookman soils have an umbric epipedon.

Typical pedon of Capers silty clay loam; about 13 miles southwest of Summerville at the intersection of South Carolina Highway 317 and South Carolina Highway 165, 7.3 miles east on South Carolina Highway 317, 3,500 feet north on unimproved paper company road, and 200 feet east of road.

A1—0 to 11 inches; very dark grayish brown (10YR 3/2) silty clay loam; massive; friable; many roots, leaves, and stems; neutral; clear smooth boundary.
A2—11 to 21 inches; black (10YR 2/1) silty clay loam; massive; slightly sticky; soil flows between fingers with some difficulty (*n* value 0.8); strong sulfide odor; common to many fine and medium roots; few fine pores; mildly alkaline, clear smooth boundary.
Cg1—21 to 28 inches; black (10YR 2/1) clay; massive; sticky; soil flows between fingers with difficulty (*n* value 0.7); strong sulfide odor; few fine pores; mildly alkaline, clear smooth boundary.
Cg2—28 to 50 inches; gray (5Y 5/1) clay; common medium distinct black (10YR 2/1) mottles and few medium distinct light olive brown (2.5Y 5/4) mottles; streaks of sandy clay loam along old root channels; massive; slightly sticky; few fine and medium roots; mildly alkaline; clear smooth boundary.
Cg3—50 to 58 inches; greenish gray (5G 6/1) silty clay; few medium distinct light greenish gray (5BG 7/1) and light olive brown (2.5Y 5/6) mottles; streaks of dark gray sandy loam along old root channels; massive; sticky; few fine and medium roots; mildly alkaline; gradual wavy boundary.
Cg4—58 to 80 inches; pale green (5G 7/2) sandy clay loam; strata of light gray (2.5Y 7/2) coarse sand; common medium distinct greenish gray (5GY 5/1) mottles; massive; slightly sticky; few fine roots; mildly alkaline.

Some pedons have an O horizon that has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is fibric or hemic material.

The A horizon has hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 or 2. It commonly is silty clay loam but ranges to silty clay or clay.

The Cg horizon has hue of 10YR to 5BG, value of 2 to 7, and chroma of 1 or 2. It is sandy clay loam, silty clay, or clay that has strata or pockets of sandy loam or coarse sand.

Chipley Series

The Chipley series consists of soils that formed in sandy marine sediment on nearly level ridges on flood plains. Slopes are 0 to 2 percent. These soils are thermic, coated Aquic Quartzipsamments.

The Chipley soils in this survey area are taxadjuncts to the Chipley series because they typically have more than 25 percent very coarse plus coarse sand in the control section. This difference does not significantly alter use and behavior of the soils.

Chipley soils are associated on the landscape with Albany, Blanton, Coosaw, Echaw, Foxworth, and Foreston soils. Albany, Coosaw, Echaw, and Foreston soils are in positions similar to those of the Chipley soils. Blanton and Foxworth soils are higher on the landscape. Foxworth soils do not have aquic colors. Albany, Blanton, Coosaw, and Foreston soils are Ultisols. Echaw soils have a spodic horizon.

Typical pedon of Chipley sand, 0 to 2 percent slopes; about 2 miles southeast of Grover, 1.5 miles east of U.S. Highway 15, 1.25 miles north of the Edisto River, and 50 feet east of South Carolina Highway 380.

Ap—0 to 7 inches; dark gray (10YR 4/1) sand; single grained; loose; many fine roots; strongly acid; gradual smooth boundary.
C1—7 to 24 inches; light yellowish brown (10YR 6/4) coarse sand; few medium distinct dark gray (10YR 4/1) and light gray (10YR 7/2) streaks along old root channels, single grained; loose; few fine roots; strongly acid; gradual irregular boundary.
C2—24 to 30 inches; very pale brown (10YR 7/3) coarse sand; many fine faint streaks of light gray; single grained; loose; few fine roots; strongly acid; gradual wavy boundary.
Cg1—30 to 60 inches; light gray (10YR 7/2) coarse sand; common fine and medium distinct brownish yellow (10YR 6/6) mottles; single grained; loose; few fine roots; strongly acid; gradual wavy boundary.
Cg2—60 to 75 inches; light gray (10YR 7/2) coarse sand; single grained; loose; strongly acid.

Chipley soils are sand or coarse sand to a depth of 80 inches or more.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2.

The upper part of the C horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 6. It has mottles in shades of brown, yellow, or gray. The lower part of the C horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Some pedons have mottles in shades of brown, yellow, or gray.

Chisolm Series

The Chisolm series consists of soils that formed in sandy and loamy marine sediments on nearly level to gently sloping terraces generally at an elevation of less than 42 feet above sea level. Slopes are 0 to 6 percent. These soils are loamy, siliceous, thermic Arenic Hapludults.

Chisolm soils are associated on the landscape with Albany, Blanton, Coosaw, Eulonia, Ogeechee, and Yauhannah soils. Albany, Coosaw, Eulonia, Ogeechee, and Yauhannah soils are lower on the landscape than the Chisolm soils. Blanton soils are in positions similar to those of the the Chisolm soils. Albany and Blanton soils are in a grossarenic subgroup. Coosaw soils have a higher seasonal water table. Eulonia soils have a clayey Bt horizon. Ogeechee soils are Aquults. Yauhannah soils are not in an arenic subgroup.

Typical pedon of Chisolm fine sand, 0 to 6 percent slopes; about 13 miles southwest of Summerville at the intersection of South Carolina Highway 165 and South Carolina Highway 317, 1.5 miles east on South Carolina Highway 317, about 0.7 mile northeast on County Road 1769, 0.1 mile northwest on dirt road, 0.75 mile northeast on paper company road, 0.1 mile east of junction of dirt road, and 30 feet east of road.

A—0 to 10 inches; brown (10YR 5/3) fine sand; weak fine granular structure; very friable; many fine roots, common medium roots, and few large roots; medium acid; clear smooth boundary.

E—10 to 30 inches; brownish yellow (10YR 6/6) loamy fine sand; common medium distinct pale brown (10YR 6/3) mottles; weak fine granular structure; very friable; common medium and fine roots; medium acid; clear wavy boundary.

Bt1—30 to 36 inches; yellowish brown (10YR 5/6) fine sandy loam; common medium faint yellowish brown (10YR 5/8) mottles; weak fine subangular blocky structure; very friable; common fine roots; few fine pores; sand grains coated and bridged with clay; medium acid; clear wavy boundary.

Bt2—36 to 48 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct yellowish red (5YR 5/8) mottles and few medium distinct light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few fine pores; very few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—48 to 58 inches; coarsely mottled light gray (10YR 6/1), red (2.5YR 4/8), and brownish yellow (10YR 6/8) sandy clay loam; moderate medium subangular blocky structure; friable; few fine pores; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—58 to 80 inches; light gray (10YR 7/1) fine sandy loam; strata of sandy clay loam and loamy fine sand; weak medium subangular blocky structure; friable; very strongly acid.

The solum ranges from 50 to 80 inches in thickness.

The A horizon has hue of 10YR, value of 4 to 7, and chroma of 1 to 4. It commonly is fine sand but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. It has mottles in shades of brown or yellow. This horizon is fine sand or loamy fine sand.

The Bt horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 8. It has mottles in shades of red, brown, yellow, or gray. The lower part of the Bt horizon in most pedons is mottled in shades of gray, red, brown, and yellow. This horizon is sandy loam, fine sandy loam, or sandy clay loam.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2; or it is mottled in shades of gray, red, yellow, or brown. This horizon is sandy loam, fine sandy loam, or stratified sandy and loamy textures.

Some pedons have a C horizon that has hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 to 8. It has mottles in shades of red, brown, yellow, or gray. This horizon is sand or loamy sand.

Coosaw Series

The Coosaw series consists of soils that formed in thick deposits of sandy and loamy sediments on nearly level, low ridges and terraces. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Arenic Hapludults.

Coosaw soils are associated on the landscape with Albany, Chisolm, Elloree, and Yauhannah soils. Albany soils are in positions similar to those of the Coosaw soils and are in a grossarenic subgroup. Chisolm and Yauhannah soils are higher on the landscape. Chisolm soils have a lower seasonal high water table, and Yauhannah soils are not in an arenic subgroup. Elloree soils are lower on the landscape and are Alfisols.

Typical pedon of Coosaw loamy fine sand; about 13 miles south of Summerville, 4,000 feet east of the junction of South Carolina Highway 317 and South Carolina Highway 165, 1,300 feet north of South Carolina Highway 317 on farm road, and 60 feet west of farm road.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

E—7 to 26 inches; very pale brown (10YR 7/3) fine sand; common medium faint light yellowish brown (10YR 6/4) and light brownish gray (10YR 6/2) mottles; weak medium granular structure; very friable; few fine roots; strongly acid; clear wavy boundary.

Bt1—26 to 31 inches; brownish yellow (10YR 6/6) sandy clay loam; few medium distinct strong brown (7.5YR 5/6) mottles and few fine distinct light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of some peds; very strongly acid; gradual wavy boundary.

Bt2—31 to 43 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct red (10R 4/6) and light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg—43 to 56 inches; gray (10YR 6/1) sandy clay loam; common medium prominent red (10R 4/6) mottles and common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of some peds; very strongly acid; gradual wavy boundary.

BCg—56 to 78 inches; light gray (10YR 7/1) sandy clay loam; pockets of fine sandy loam; common medium prominent yellowish red (5YR 5/6) mottles, and few coarse prominent red (10R 4/6) mottles; weak medium subangular blocky structure; friable; very strongly acid.

The solum ranges from 50 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 3. If the A horizon has value of less than 3.5, it is less than 6 inches thick. The A horizon commonly is loamy fine sand but is fine sand or loamy sand in some pedons.

The E horizon has hue of 10YR to 5Y, value of 6 to 8, and chroma of 1 to 4. It is fine sand, loamy sand, or loamy fine sand.

The upper part of the Bt horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8. The lower part of the Bt horizon and the BC horizon have hue of 10YR to 5Y, value to 5 to 7, and chroma of 1 or 2. The Bt and BC horizons have mottles in shades of red, brown, yellow, or gray, or in a combination of these colors. These horizons commonly are sandy clay loam but are fine sandy loam and sandy loam in some pedons.

Coxville Series

The Coxville series consists of soils that formed in clayey marine sediment in nearly level depressional areas and small drainageways. Slopes are 0 to 2 percent. These soils are clayey, kaolinitic, thermic Typic Paleaquults.

Coxville soils are associated on the landscape with Goldsboro, Lynchburg, Rains, and Grifton soils. Goldsboro and Lynchburg soils are higher on the landscape than the Coxville soils and have less than 35 percent clay in the B horizon. Lynchburg soils are in an aeric subgroup. Rains and Grifton soils are in positions similar to those of the Coxville soils and have less than 35 percent clay in the B horizon.

Typical pedon of Coxville loam; about 1 mile south of the intersection of U.S. Highway 15 and U.S. Highway 178 in Rosinville, about 0.5 mile west on South Carolina Highway 175, and 50 feet north of road.

A—0 to 6 inches; very dark gray (10YR 3/1) loam; weak fine subangular blocky structure; very friable; many fine roots, common medium roots, and few large roots; few fine and medium pores; very strongly acid; clear wavy boundary.

BE—6 to 11 inches; grayish brown (10YR 5/2) loam; common medium faint gray (10YR 5/1) mottles and few fine distinct brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; sticky; few faint clay films on faces of peds; common fine and medium roots; few fine pores; extremely acid; clear wavy boundary.

Btg1—11 to 35 inches; gray (10YR 5/1) clay loam; common medium distinct dark gray (10YR 4/1) and brownish yellow (10YR 6/8) mottles and few fine distinct dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; very sticky; few distinct clay films on faces of peds; few fine and medium roots; few fine pores; extremely acid; gradual wavy boundary.

Btg2—35 to 80 inches; dark gray (10YR 4/1) clay; few medium distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; very sticky; few distinct clay films on faces of peds; few fine roots; extremely acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. It commonly is loam but is sandy loam or fine sandy loam in some pedons.

The Btg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. It has mottles in shades of red, yellow, brown, or gray. This horizon is clay loam, sandy clay, or clay.

Daleville Series

The Daleville series consists of soils that formed in loamy marine sediment in depressions and drainageways on upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Paleaquults.

Daleville soils are associated on the landscape with Jedburg, Emporia, Izagora, Noboco, and Grifton soils. Jedburg soils are slightly higher on the landscape than the Daleville soils and are in an aeric subgroup. Emporia, Noboco, and Izagora soils are higher on the landscape and are Udults. Grifton soils are in positions similar to those of the Daleville soils and are Alfisols.

Typical pedon of Daleville silt loam; about 2 miles southwest of Givhans on South Carolina Highway 244, 160 feet west of unimproved road, and 100 feet north of paper company road.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine subangular blocky structure; friable; many fine and medium roots; few large roots; very strongly acid; abrupt wavy boundary.

E—8 to 15 inches; light gray (10YR 7/1) silt loam; common medium distinct yellow (10YR 7/6) mottles and common medium faint very pale brown (10YR 7/3) mottles; weak fine subangular blocky structure; friable; common fine and medium roots; few fine pores; very strongly acid; clear wavy boundary.

Btg1—15 to 26 inches; light gray (10YR 7/1) silt loam; common coarse distinct brownish yellow (10YR 6/8) mottles and few fine prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; slightly hard; few fine roots; few faint clay films on faces of peds; few fine pores; very strongly acid; gradual wavy boundary.

Btg2—26 to 39 inches; light gray (10YR 6/1) silty clay loam; many coarse distinct yellowish brown (10YR 5/8) mottles and common medium prominent red (2.5YR 4/8) mottles; strong medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg3—39 to 67 inches; light gray (10YR 6/1) silty clay loam; many coarse prominent red (2.5YR 4/8) mottles and common medium distinct brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—67 to 80 inches; gray (10YR 6/1) clay loam; pockets of sandy clay loam and strata of fine sandy loam; many coarse distinct brownish yellow (10YR 6/8) mottles and common medium prominent red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. It commonly is silt loam but is fine sandy loam or loam in some pedons.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2. This horizon has mottles in shades of yellow or brown. This horizon is fine sandy loam, loam, or silt loam.

The Btg horizon has hue of 10YR, value of 6 or 7, and chroma of 1. It has mottles in shades of red, brown, or yellow. This horizon is sandy clay loam, loam, clay loam, silt loam, or silty clay loam.

The BCg horizon has hue of 10YR, value of 6 or 7, and chroma of 1. It has mottles in shades of red, brown, yellow, or gray. This horizon is fine sandy loam, sandy clay loam, clay loam, or silty clay loam. Some pedons are stratified with sandier material.

Echaw Series

The Echaw series consists of soils that formed in thick deposits of sandy marine sediment on ridges of upland terraces in the central part of the county. Slopes are 0 to 2 percent. These soils are sandy, siliceous, thermic Entic Haplohumods.

Echaw soils are associated on the landscape with Albany, Chipley, Leon, Foreston, and Osier soils. Albany, Chipley, and Foreston soils are in positions similar to those of the Echaw soils. Albany and Foreston soils are Ultisols, and Chipley soils are Entisols. Leon and Osier soils are lower on the landscape. Leon soils have a Bh horizon less than 30 inches from the surface. Osier soils do not have a Bh horizon.

Typical pedon of Echaw fine sand; about 2.3 miles south of Dorchester, 1,000 feet north of the junction of South Carolina Highway 248 and South Carolina Highway 25, and 1,800 feet east of South Carolina Highway 25.

Ap—0 to 7 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; common fine and medium roots; slightly acid; clear smooth boundary.

E1—7 to 18 inches; very pale brown (10YR 7/3) fine sand; weak fine granular structure; very friable; common fine and medium roots; medium acid; gradual smooth boundary.

E2—18 to 45 inches; light yellowish brown (10YR 6/4) fine sand; common medium distinct light gray (10YR 7/2) mottles, common medium faint brownish yellow (10YR 6/6) mottles, and few fine distinct red (2.5YR 5/6) mottles; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.

Bh1—45 to 52 inches; brown (7.5YR 4/2) loamy fine sand; common medium distinct pale brown (10YR 6/3) mottles; weak fine subangular blocky structure parting to weak fine granular; very friable, slightly brittle in some parts; few fine pores; few fine dark reddish brown (5YR 3/2) bodies that are slightly firm and brittle; coatings on most sand grains; strongly acid; clear smooth boundary.

Bh2—52 to 60 inches; dark reddish brown (5YR 3/2) fine sand; few medium dark brown (7.5YR 4/2) mottles; weak fine subangular blocky structure parting to weak fine granular; very friable, slightly brittle in some parts; coatings on most sand grains; strongly acid; gradual wavy boundary.

Bh3—60 to 80 inches; black (5YR 2/1) fine sand; common medium distinct dark reddish gray (5YR 4/2) mottles; weak fine subangular blocky structure parting to weak fine granular; very friable, slightly brittle in some parts; coatings on most sand grains; very strongly acid.

The solum ranges from 55 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2. It commonly is fine sand but is sand or loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 6 or 7, and chroma of 3 to 8. Mottles in shades of brown, yellow, or gray are in some pedons. This horizon is fine sand, loamy sand, or loamy fine sand.

The Bh horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 4. Mottles in shades of brown, yellow, or gray are in some pedons. This horizon is fine sand, loamy sand, or loamy fine sand.

Elloree Series

The Elloree series consists of soils that formed in thick deposits of sandy and loamy sediments on broad, low stream terraces, in depressions, and along drainageways. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Arenic Ochraqualfs.

The Elloree soils in this survey area are taxadjuncts to the Elloree series because they typically are more acid in the A horizon and the upper part of the B horizon and have a slightly thicker, darker color surface layer than is defined in the Elloree series. These differences do not significantly alter the use and behavior of the soils.

Elloree soils are associated on the landscape with Albany, Coosaw, Nakina, Grifton, Mouzon, and Yemassee soils. Albany and Coosaw soils are higher on the landscape than the Elloree soils and are Ultisols. Also, Albany soils are in a grossarenic subgroup. Nakina soils are lower on the landscape and have an umbric epipedon. Grifton and Mouzon soils are in positions similar to those of the Elloree soils and are not in an arenic subgroup. Yemassee soils are slightly higher on the landscape and are in an aeric subgroup.

Typical pedon of Elloree loamy fine sand, occasionally flooded; about 6 miles southeast of Summerville, about 1.7 miles north of the intersection of South Carolina Highway 642 and South Carolina Highway 259, 410 feet northwest of South Carolina Highway 662 and South Carolina Electric and Gas power pole 153988.

A—0 to 8 inches; very dark gray (10YR 3/1) loamy fine sand; weak medium granular structure; very friable; many very fine roots, common fine roots, and few medium roots; very strongly acid; clear smooth boundary.

E1—8 to 20 inches; dark grayish brown (10YR 4/2) loamy fine sand; common medium distinct brown (10YR 5/3) mottles; weak fine granular structure; very friable, slightly brittle in some parts; common fine roots and few medium roots; strongly acid; clear wavy boundary.

E2—20 to 23 inches; light brownish gray (10YR 6/2) fine sand; common medium distinct dark grayish brown (10YR 4/2) mottles and common medium faint pale brown (10YR 6/3) mottles; single grained; loose; common fine roots; medium acid; abrupt wavy boundary.

Btg—23 to 43 inches; gray (10YR 5/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few distinct coatings on faces of peds; few very fine roots; few very fine tubular pores; coatings of E material on faces of some peds; strongly acid; clear wavy boundary.

BCg1—43 to 51 inches; gray (10YR 5/1) sandy clay loam; strata of light gray (10YR 7/2) fine sand; many coarse prominent yellowish red (5YR 4/6) mottles and common medium distinct light brownish gray (2.5Y 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; few very fine tubular pores; few small to medium reddish brown (5YR 4/3) ironstone concretions; strongly acid; clear wavy boundary.

BCg2—51 to 72 inches; light gray (10YR 6/1) sandy clay loam; strata of loamy sand; common medium distinct light gray (5Y 7/2) mottles; weak medium subangular blocky structure; friable; few fine roots; neutral; gradual wavy boundary.

Cg—72 to 80 inches; light gray (5Y 7/2) loamy sand; common medium distinct gray (10YR 6/1) mottles; massive; very friable; neutral.

The solum ranges from 55 to more than 80 inches in thickness.

The A horizon has hue of 10YR to 5Y, value of 2 to 4, and chroma of 1; or it is neutral and has value of 2 to 4. This horizon commonly is loamy fine sand but is fine sand or loamy sand in some pedons.

The E horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4. It is loamy fine sand, loamy sand, or fine sand.

The Btg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. In some pedons, this horizon has hue of 2.5Y or 5Y and chroma of 3 or 4. Mottles in shades or red, brown, yellow, or gray or a combination of these colors are in most pedons. The Btg horizon commonly is sandy clay loam but ranges to sandy loam, fine sandy loam, and clay loam.

The BCg horizon has hue of 10YR to 5GY, value of 5 to 7, and chroma of 1 or 2; or it is neutral and has value of 5 to 7. It commonly has mottles in shades of red, brown, yellow, or gray or in a combination of these colors. This horizon is fine sandy loam or sandy clay loam.

The C horizon has colors similar to those of the BCg horizon. It ranges from sandy to clayey material.

Emporia Series

The Emporia series consists of soils that formed in loamy marine sediment on gently sloping upland terraces. Slopes are 2 to 6 percent. These soils are fine-loamy, siliceous, thermic Typic Hapludults.

Emporia soils are associated on the landscape with Daleville, Goldsboro, Jedburg, Izagora, Lynchburg, and Rains soils. These soils are lower on the landscape than the Emporia soils. Jedburg, Lynchburg, Daleville, and Rains soils are Aquults. Izagora and Goldsboro soils have mottles that have chroma of 2 or less within 30 inches of the surface. Bonneau soils are in an arenic subgroup.

Typical pedon of Emporia loamy fine sand, 2 to 6 percent slopes; about 4 miles west of Summerville on South Carolina Highway 58, about 1,000 feet southwest on a subdivision road from the intersection of South Carolina Highway 58 and South Carolina Highway 22, about 500 feet north on a subdivision road, and 50 feet south of road.

A—0 to 5 inches; dark grayish brown (10YR 4/2) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; strongly acid; gradual smooth boundary.

E—5 to 14 inches; very pale brown (10YR 7/3) loamy fine sand; common medium faint very pale brown (10YR 8/3) mottles; weak fine subangular blocky structure; very friable; few fine roots and common medium roots; strongly acid; gradual wavy boundary.

Bt1—14 to 41 inches; strong brown (7.5YR 5/8) sandy clay loam; common medium distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; few fine roots; few fine tubular pores; strongly acid; gradual smooth boundary.

Bt2—41 to 54 inches; mottled reddish yellow (7.5YR 6/8), red (2.5YR 4/6), and light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; few fine tubular pores; very strongly acid; gradual wavy boundary.

BC—54 to 75 inches; light gray (10YR 7/1) stratified sandy clay loam and sandy loam; many medium distinct yellowish brown (10YR 5/8) mottles and common medium prominent red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; strongly acid.

The solum ranges from 55 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 1 to 3. It commonly is loamy fine sand but is loamy sand in some pedons.

The E horizon has hue of 10YR, value of 6 or 7, and chroma of 3 or 4. It is loamy sand or loamy fine sand.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 6 or 8. It has mottles in shades of red, brown, and yellow. Mottles in shades of gray are in the lower part of the Bt horizon in most pedons. This horizon is sandy clay loam. In some pedons, the lower part of the Bt horizon is sandy clay.

The BC horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 1 to 8. Some pedons are mottled in shades of red, brown, yellow, and gray. This horizon is sandy clay loam that has strata of loamy sand, sandy loam, or sandy clay.

Eulonia Series

The Eulonia series consists of soils that formed in clayey marine sediment on nearly level or gently sloping upland terraces in the southeastern part of the county generally at an elevation of less than 42 feet above sea level. Slopes are 0 to 6 percent. These soils are clayey, mixed, thermic Aquic Hapludults.

Eulonia soils are associated on the landscape with Chisolm, Mouzon, Ogeechee, Wahee, Yauhannah, and Yemassee soils. Chisolm soils are higher on the landscape than the Eulonia soils and are in an arenic subgroup. Mouzon, Ogeechee, Wahee, and Yemassee soils are lower on the landscape. Mouzon and Ogeechee soils are dominantly gray throughout the profile. Mouzon soils are Alfisols, and Ogeechee soils have a fine-loamy particle-size control section. Wahee and Yemassee soils are in an aeric subgroup. Yemassee soils have a fine-loamy particle-size control section. Yauhannah soils are in positions similar to those of the Eulonia soils and have a fine-loamy particle-size control section.

Typical pedon of Eulonia fine sandy loam, 0 to 2 percent slopes; about 13 miles southwest of Summerville at the intersection of South Carolina Highway 317 and South Carolina Highway 165, about 6 miles east on South Carolina Highway 317, about 1.5 miles north on paper company unimproved road, and 50 feet west of road in planted pine.

Ap—0 to 4 inches, dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots and common medium roots; strongly acid; clear smooth boundary.

E—4 to 11 inches; light yellowish brown (10YR 6/4) fine sandy loam; few medium distinct dark grayish brown (10YR 4/2) streaks along old root channels; weak fine granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—11 to 15 inches; strong brown (7.5YR 5/6) sandy clay loam; common medium distinct very pale brown (10YR 7/4) and yellowish red (5YR 5/6) mottles and few fine distinct red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of some peds; few fine roots and pores; strongly acid; gradual wavy boundary.

Bt2—15 to 27 inches; yellowish red (5YR 5/6) sandy clay; common medium distinct red (2.5YR 4/8) mottles and few fine distinct pale brown (10YR 6/3) mottles; strong medium subangular blocky structure; very firm; few distinct clay films on faces of peds; few fine roots; common fine pores; strongly acid; clear wavy boundary.

Bt3—27 to 35 inches; yellowish red (5YR 5/6) sandy clay loam; strata of clay; common medium distinct red (2.5YR 4/8) and reddish yellowish (7.5YR 6/8) mottles and few medium distinct light brownish gray (10YR 6/2) mottles; moderate to strong medium subangular blocky structure; very firm; few distinct clay films on faces of peds; few medium roots; few fine and medium pores; few fine flakes of mica; strongly acid; clear wavy boundary.

BC—35 to 49 inches; strong brown (7.5YR 5/8) sandy clay loam; common medium distinct light gray (10YR 7/1) and yellowish red (5YR 5/8) mottles and few medium distinct reddish brown (5YR 5/4) mottles; moderate medium subangular blocky structure; friable; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C—49 to 80 inches; strong brown (7.5YR 5/8) loamy fine sand; strata of sandy clay loam; common medium distinct yellowish red (5YR 5/8) mottles and few medium distinct light gray (10YR 7/2) and very pale brown (10YR 7/4) mottles; weak fine subangular blocky structure; very friable; very strongly acid.

The solum ranges from 49 to more than 72 inches in thickness.

The A horizon has hue of 10YR, value of 4, and chroma of 1 or 2. It commonly is fine sandy loam but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 1 to 4. It is sandy loam or fine sandy loam.

The Bt horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8. It is sandy clay or clay. In some pedons, the upper part of the Bt horizon is sandy clay loam.

The BC horizon has hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 to 8. In some pedons, it is mottled in shades of red, yellow, brown, or gray. This horizon is sandy loam or sandy clay loam. Some pedons have pockets or strata of variable textures.

The C horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 2 to 8. It is loamy sand, loamy fine sand, or sandy loam. Some pedons have pockets or strata of variable textures.

Foreston Series

The Foreston series consists of soils that formed in loamy marine sediment on nearly level upland terraces mainly in the central part of the county. Slopes are 0 to 2 percent. These soils are coarse-loamy, siliceous, thermic Aquic Paleudults.

Foreston soils are associated on the landscape with Albany, Blanton, Bonneau, Echaw, Goldsboro, Ocilla, and Lynn Haven soils. Albany, Echaw, Goldsboro, and Ocilla soils are in positions similar to those of the Foreston soils. Albany soils are in a grossarenic subgroup. Echaw soils are Spodosols. Goldsboro soils have a fine-loamy particle-size control section. Ocilla soils are in an arenic subgroup. Blanton and Bonneau soils are higher on the landscape. Blanton soils are in a grossarenic subgroup, and Bonneau soils are in an arenic subgroup. Lynn Haven soils are lower on the landscape, are Spodosols, and have an umbric epipedon.

Typical pedon of Foreston loamy fine sand, 0 to 2 percent slopes; about 500 feet north from the intersection of U.S. Highway 78 and South Carolina Highway 25, about 0.5 mile east on unimproved county road, and 500 feet north of road in a cultivated field.

Ap—0 to 8 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; many fine roots and few medium roots; medium acid; clear smooth boundary.

E—8 to 13 inches; yellowish brown (10YR 5/4) loamy fine sand; common medium distinct pale brown (10YR 6/3) mottles and few medium distinct yellowish brown (10YR 5/8) mottles; weak fine granular structure; very friable; few fine roots; few fine pores; medium acid; gradual wavy boundary.

Bt1—13 to 23 inches; yellowish brown (10YR 5/6) fine sandy loam; few medium faint yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; very friable; very few faint clay films along old root channels, few fine roots; few fine pores; medium acid; gradual wavy boundary.

Bt2—23 to 32 inches; brownish yellow (10YR 6/6) fine sandy loam; common medium faint yellowish brown (10YR 5/8) mottles and common medium distinct light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; very friable; very few faint clay films along old root channels; few fine roots; few fine pores; medium acid; clear wavy boundary.

E'—32 to 53 inches; light brownish gray (10YR 6/2) fine sand; common medium faint gray (10YR 6/1) mottles and few medium distinct brown (10YR 4/3) mottles; single grained; very friable; few fine roots; medium acid; clear wavy boundary.

Btg—53 to 80 inches; light gray (10YR 7/1) fine sandy loam; strata of sandy clay loam and loamy sand; common medium distinct brownish yellow (10YR 6/8) and very pale brown (10YR 7/4) mottles; weak medium subangular blocky structure; very friable; strongly acid.

The solum is more than 60 inches thick.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. It has mottles in shades of brown or yellow. This horizon generally is loamy fine sand but is loamy sand in some pedons.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 3 to 6. It has mottles in shades of brown or yellow. This horizon is fine sand, loamy sand, or loamy fine sand.

The upper part of the Bt horizon has hue of 10YR, value of 5 to 7, and chroma of 4 or 6. It has mottles in shades of brown or yellow and has gray mottles between depths of 20 and 30 inches. This horizon is sandy loam or fine sandy loam.

The E' horizon has hue of 10YR, value of 5 to 7, and chroma of 1 to 6. It has mottles in shades of yellow, brown, or gray. This horizon is fine sand, loamy sand, or loamy fine sand.

The lower part of the Bt horizon has hue of 10YR, value of 5 to 7, and chroma of 1 to 6. It has mottles in shades of yellow, brown, or gray. This horizon is fine sandy loam or sandy loam with strata of loamy sand or sandy clay loam.

Foxworth Series

The Foxworth series consists of soils that formed in sandy marine sediment on nearly level to gently sloping stream terraces and ridges throughout the county. Slopes are 0 to 6 percent. These soils are thermic, coated Typic Quartzipsamments.

Foxworth soils are associated on the landscape with Albany, Alpin, Blanton, Chipley, Osier, and Lynn Haven soils. Albany and Chipley soils are slightly lower on the landscape than the Foxworth soils. Albany soils are in a grossarenic subgroup. Chipley soils have gray mottles between depths of 20 and 40 inches. Alpin and Blanton soils are higher on the landscape. Alpin soils have lamella between depths of 50 and 70 inches. Blanton soils are in a grossarenic subgroup. Osier and Lynn Haven soils are lower on the landscape. Osier soils have dominant matrix chroma of 2 or less. Lynn Haven soils have an umbric epipedon and are Spodosols.

Typical pedon of Foxworth fine sand, 0 to 6 percent slopes; about 0.7 mile southeast of the entrance to Middleton Gardens on South Carolina Highway 61, about 700 feet south of the caretaker's house along riding trail, and 100 feet west of trail.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sand; single grained; loose; common large and medium roots and many fine roots; strongly acid; clear smooth boundary.

Bw1—7 to 14 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common streaks of very dark grayish brown (10YR 3/2) surface material; common medium and fine roots; few fine pores; medium acid; gradual smooth boundary.

Bw2—14 to 47 inches; strong brown (7.5YR 5/6) fine sand; few medium distinct very pale brown (10YR 7/4) mottles; single grained; loose; common fine roots; common fine pores; medium acid; gradual smooth boundary.

C1—47 to 64 inches; very pale brown (10YR 7/4) fine sand; common medium distinct light gray (10YR 7/2) mottles and few medium distinct brownish yellow (10YR 6/8) mottles; single grained; loose; common fine roots; medium acid; gradual wavy boundary.

C2—64 to 77 inches; very pale brown (10YR 7/3) fine sand; common medium faint light gray (10YR 7/2) mottles; single grained; loose; medium acid; gradual wavy boundary.

C3—77 to 85 inches; light gray (10YR 7/1) fine sand; single grained; loose; medium acid.

This soil is sand or fine sand to a depth of more than 80 inches.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 8. This horizon is mottled in shades of brown or yellow.

The C horizon has hue of 10YR, value of 5 to 7, and chroma of 1 to 6. It has mottles in shades of brown, yellow, or gray.

Goldsboro Series

The Goldsboro series consists of soils that formed in loamy marine sediment on nearly level upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Aquic Paleudults.

Goldsboro soils are associated on the landscape with Bonneau, Lynchburg, Ocilla, Noboco, Pantego, and Rains soils. Bonneau and Noboco soils are slightly higher on the landscape than the Goldsboro soils. Bonneau soils are in an arenic subgroup. Noboco soils do not have gray mottles within 30 inches of the surface. Lynchburg and Ocilla soils are slightly lower on the landscape. Lynchburg soils are in an aeric subgroup, and Ocilla soils are in an arenic epipedon. Pantego and Rains soils are lower on the landscape, are Aquults, and have dominant matrix with chroma of 2 or less throughout the profile. Pantego soils have an umbric epipedon.

Typical pedon of Goldsboro loamy sand, 0 to 2 percent slopes; about 0.2 mile northwest of overpass bridge where South Carolina Highway 86 crosses over U.S. Interstate 95, about 1.2 miles southwest on unimproved county road, and 50 feet northwest of road in a cultivated field.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loamy sand; weak fine granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.

E—7 to 14 inches; light yellowish brown (10YR 6/4) loamy sand; few medium distinct dark gray (10YR 4/1) streaks in old root or worm holes; weak fine subangular blocky structure; very friable; few fine roots; medium acid; clear smooth boundary.

Bt1—14 to 25 inches; yellowish brown (10YR 5/8) sandy clay loam; few fine distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films along old root holes; few fine roots; few fine pores; very strongly acid; gradual wavy boundary.

Bt2—25 to 48 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct yellowish red (5YR 5/8) mottles, common medium distinct light yellowish brown (10YR 6/4) mottles, and few medium distinct gray (10YR 6/1) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; very strongly acid; gradual wavy boundary.

Btg—48 to 62 inches; gray (10YR 6/1) sandy clay loam; many coarse distinct yellowish brown (10YR 5/8) mottles, common medium distinct strong brown (7.5YR 5/8) mottles, and few medium prominent red (2.5YR 4/8) mottles; weak medium subangular blocky structure; very friable; few faint clay films on faces of peds; few fine roots; very strongly acid; clear wavy boundary.

BCg—62 to 80 inches; gray (10YR 6/1) sandy clay loam; strata of sandy loam; common medium prominent red (2.5YR 4/8) mottles, common medium distinct yellowish brown (10YR 5/8) mottles, and few medium distinct reddish yellow (7.5YR 6/8) mottles; weak medium subangular blocky structure; very friable; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 to 6, and chroma of 1 or 2. It commonly is loamy sand but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. It has mottles in shades of brown, yellow, or gray. This horizon is loamy sand or loamy fine sand.

The Bt horizon has hue of 10YR, value of 5 to 7, and chroma of 4 to 8. It has mottles in shades of red, brown, or yellow. Mottles in shades of gray are 18 to 30 inches below the surface. This horizon is sandy clay loam.

The Btg horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. This horizon is sandy clay loam or sandy clay.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. This horizon is sandy clay loam, sandy clay, or sandy loam. Some pedons are stratified.

Grifton Series

The Grifton series consists of soils that formed in loamy marine sediment on nearly level flood plains and along small drainageways throughout the county. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Ochraqualfs.

Grifton soils are associated on the landscape with Mouzon, Daleville, Ogeechee, Osier, Plummer, Rains, and Elloree soils. All of these soils are in positions similar to those of the Grifton soils and are dominantly gray throughout. Mouzon soils are Albaqualfs. Daleville, Ogeechee, and Rains soils are Aquults, and Osier soils are Entisols. Elloree soils are in an arenic subgroup, and Plummer soils are in a grossarenic subgroup.

Typical pedon of Grifton fine sandy loam, frequently flooded; about 1.5 miles southwest of St. George on South Carolina Highway 49, 100 feet southeast of the highway, about halfway between the two bridges crossing Polk Swamp.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; common medium roots and many fine roots; very strongly acid; clear wavy boundary.

E—6 to 10 inches; light gray (10YR 7/2) fine sandy loam; common medium faint light brownish gray (10YR 6/2) mottles and common medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; common fine roots; few fine pores; slightly acid; clear wavy boundary.

Btg1—10 to 35 inches; gray (10YR 5/1) sandy clay loam; few medium distinct brownish yellow (10YR 6/6) mottles; moderate medium prismatic structure parting to strong coarse subangular blocky; firm; few fine roots; common fine pores; many distinct clay films on faces of peds; few to common small to medium concretions of calcium carbonate; few sand coatings between peds; moderately alkaline; gradual wavy boundary.

Btg2—35 to 49 inches; gray (10YR 6/1) sandy clay loam; common medium distinct light olive brown (2.5Y 5/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; few fine pores; common distinct clay films on faces of peds; common fine and medium concretions of calcium carbonate; moderately alkaline; gradual wavy boundary.

Cg1—49 to 61 inches; light gray (10YR 7/1) sandy clay loam; strata of loamy sand; few medium distinct brownish yellow (10YR 6/6) mottles; massive; friable; moderately alkaline; clear wavy boundary.

Cg2—61 to 67 inches; gray (10YR 6/1) sandy loam; strata of loamy sand; massive; very friable; neutral; gradual wavy boundary.

Cg3—67 to 80 inches; gray (10YR 6/1) sand; single grained; loose; moderately alkaline.

The solum ranges from 40 to more than 65 inches in thickness.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. It commonly is fine sandy loam but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It is fine sand, loamy fine sand, or fine sandy loam.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1. It has mottles in shades of red, yellow, brown, or gray. This horizon is fine sandy loam or sandy clay loam. Some pedons have strata of loamy sand and sandy clay.

The Cg horizon has hue of 10YR, value of 6 or 7, and chroma of 1. Some pedons have mottles in shades of brown or yellow, and some pedons have strata of white sand. This horizon is sand, loamy fine sand, or sandy loam; or it is stratified with variable textures.

Handsboro Series

The Handsboro series consists of soils that formed in loamy and clayey marine sediment on nearly level tidal marshes at an elevation of 3 to 6 feet above sea level. These soils are flooded by sea water once or twice daily. Slopes are less than 1 percent. These soils are euic, thermic Typic Sulfihemists.

The Handsboro soils in this survey area are considered taxadjuncts to the Handsboro series because they have hemic or fibric material dominant in the surface tier, have a redder hue, and are underlain by a continuous 2C horizon at a depth of about 48 inches. Use and behavior of the soils in this survey area are controlled by flooding, ponding, and excess humus and are not significantly different than for the Handsboro series.

Handsboro soils are associated on the landscape with Capers, Mouzon, and Brookman soils. Capers soils are in positions similar to those of the Handsboro soils. They do not have organic material in more than half of the upper 32 inches of the profile. Mouzon and Brookman soils are slightly higher on the landscape and are Alfisols. Mouzon soils have an ochric epipedon, and Brookman soils have an umbric epipedon.

Typical pedon of Handsboro muck; about 10.5 miles southeast of Summerville, about 1 mile south of the entrance to Arch Dale subdivision on South Carolina Highway 642, about 150 feet into the marsh from the south edge of the marsh.

Oi—0 to 6 inches; dark reddish gray (5YR 4/2) muck, pressed or rubbed fibric material; about 80 percent fiber when rubbed; structureless; nonsticky; many fine roots; about 20 percent mineral; moderately alkaline when wet; clear smooth boundary.

Oe—6 to 24 inches; dark brown (10YR 3/3) broken faced, pressed or rubbed hemic material; about 50 percent fiber undisturbed; structureless; nonsticky; common fine roots; strong sulfide odor; about 10 percent mineral; moderately alkaline when wet; clear smooth boundary.

Oa—24 to 48 inches; dark reddish brown (5YR 3/2) rubbed sapric material; about 5 percent fiber when rubbed; structureless; slightly sticky; about 30 percent mineral; moderately alkaline when wet; gradual smooth boundary.

2Cg—48 to 80 inches; greenish gray (5BG 6/1) silty clay; few medium distinct reddish brown (2.5YR 5/4) and dark gray (10YR 4/1) mottles; massive; very sticky; mildly alkaline when wet.

The organic layers range from 30 to 48 inches in thickness.

The Oi horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2. Fiber content ranges from 60 to 90 percent. This horizon is muck.

The Oe horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 or 3. Fiber content ranges from 30 to 60 percent.

The Oa horizon has hue of 2.5YR to 10YR, value of 2 to 4, and chroma of 1 or 2. Fiber content is less than 10 percent rubbed.

The 2Cg horizon has hue of 5Y to 5BG, value of 3 to 7, and chroma of 1 or 2. Most pedons have mottles in shades of yellow or brown. This horizon ranges from loamy sand to clay.

Izagora Series

The Izagora series consists of soils that formed in loamy and silty marine sediments on nearly level to gently sloping upland stream terraces and low ridges. Slopes are 0 to 6 percent. These soils are fine-loamy, siliceous, thermic Aquic Paleudults.

Izagora soils are associated on the landscape with Jedburg, Emporia, Bonneau, Daleville, and Pelham soils. Jedburg, Daleville, and Pelham soils are lower on the landscape than the Izagora soils and are aquults. Pelham soils are in an arenic subgroup. Emporia and Bonneau soils are higher on the landscape. Emporia soils do not have gray mottles within 24 inches of the top of the argillic horizon. Bonneau soils are in an arenic subgroup.

Typical pedon of Izagora silt loam, 0 to 2 percent slopes; about 1.2 miles north of Givhans, about 300 feet south of small church, and 80 feet west of South Carolina Highway 174 in a field.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; very friable; few medium roots and many fine roots; medium acid; clear smooth boundary.

Bt1—6 to 13 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; slightly sticky; few fine roots; few fine pores; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—13 to 26 inches; brownish yellow (10YR 6/6) silt loam; common medium distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; slightly sticky; few faint clay films on faces of peds; few fine pores; very strongly acid; gradual wavy boundary.

Bt3—26 to 41 inches; brownish yellow (10YR 6/6) silty clay loam; common medium distinct yellowish brown (10YR 5/8) and light gray (10YR 7/1) mottles and few medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; slightly sticky; few fine pores; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg1—41 to 56 inches; brownish yellow (10YR 6/6) silty clay; many medium prominent red (2.5YR 4/8) mottles, many medium distinct light gray (10YR 7/1) mottles, and common medium distinct very pale brown (10YR 7/4) mottles; moderate medium subangular blocky structure; firm; very strongly acid; gradual wavy boundary.

Btg2—56 to 80 inches; light gray (10YR 7/1) silty clay loam; many medium prominent red (2.5YR 4/8) mottles, many medium distinct brownish yellow (10YR 6/6) mottles, and common medium distinct yellow (10YR 7/8) mottles; weak medium subangular blocky structure; firm; very strongly acid.

The solum ranges from 60 to 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 to 3. It commonly is silt loam but is fine sandy loam or loam in some pedons.

Some pedons have an E horizon that has hue of 10YR, value of 4 to 6, and chroma of 4. It is sandy loam, fine sandy loam, loam, or silt loam.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 to 8. It has mottles in shades of red, brown, or yellow. Gray mottles are in the lower part of the horizon. The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. The Bt and Btg horizons are sandy clay loam, clay loam, silt loam, or silty clay loam. Some pedons have silty clay in the lower part of the B horizon.

Some pedons have a BC horizon that has hue of 10YR, value of 5 to 7, and chroma of 1 to 8, and has mottles in shades of red, brown, yellow, or gray; or it is mottled with these colors. This horizon is sandy clay loam, silty clay loam, clay loam, or silty clay.

Jedburg Series

The Jedburg series consists of soils that formed in loamy and silty marine sediment on broad upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Aeric Paleaquults.

Jedburg soils are associated on the landscape with Emporia, Izagora, and Daleville soils. Emporia and Izagora soils are higher on the landscape than the Jedburg soils and are Udults. Daleville soils are lower on the landscape and are not in an aeric subgroup.

Typical pedon of Jedburg loam; about 3 miles southwest of Ridgeville, about 1 mile southeast of the junction of South Carolina Highway 19 and South Carolina Highway 136, and 100 feet west of South Carolina Highway 136.

A1—0 to 5 inches; very dark gray (10YR 3/1) loam; weak fine granular structure; very friable; many fine roots, common medium roots, and few large roots; very strongly acid; clear smooth boundary.

A2—5 to 8 inches; dark grayish brown (10YR 4/2) loam; common fine distinct light brownish gray (10YR 6/2) mottles; weak fine granular structure; very friable; common fine roots and few medium roots; few fine tubular pores; strongly acid; clear smooth boundary.

BE—8 to 15 inches; light yellowish brown (10YR 6/4) loam; common medium faint brownish yellow (10YR 6/6) mottles and common medium distinct light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; very friable; few fine roots and few medium roots; common fine tubular pores; very strongly acid; gradual wavy boundary.

Btg1—15 to 36 inches; light gray (10YR 7/1) loam; common medium distinct brownish yellow (10YR 6/8) mottles and common fine prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; very fine faint clay films on faces of peds; few fine and medium roots; few fine tubular pores; strongly acid; gradual wavy boundary.

Btg2—36 to 55 inches; pinkish gray (7.5YR 6/2) silt loam; common medium distinct light brownish gray (10YR 6/2) mottles and common medium distinct brownish yellow (10YR 6/8) and yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds and in old root channels; few fine and medium roots; few fine tubular pores; strongly acid; gradual wavy boundary.

Btg3—55 to 75 inches; mottled light gray (10YR 7/1), yellowish brown (10YR 5/8), and red (2.5YR 4/8) loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; few fine roots; few fine tubular pores; strongly acid; gradual wavy boundary.

BCg—75 to 80 inches; light gray (5Y 7/2) sandy clay loam; common medium distinct gray (10YR 6/1) mottles and common fine distinct brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; friable; strongly acid.

The solum is more than 60 inches thick.

The A horizon has hue of 10YR or 2.5Y, value of 2 to 6, and chroma of 1 or 2. It commonly is loam but is loamy fine sand, fine sandy loam, or silt loam in some pedons.

Some pedons have an E horizon that has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 4. It is loamy fine sand, fine sandy loam, loam, or silt loam.

Some pedons have a Bt horizon that has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 3 to 8. It has mottles in shades of red, brown, yellow, and gray. This horizon is loam, silt loam, or clay loam.

The Btg horizon has hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 1 or 2. Most pedons have mottles in shades of red, brown, yellow, or gray. This soil is loam, silt loam, or clay loam.

The BCg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. It has common to many mottles in shades of yellow, brown, red, or gray. This horizon is sandy clay loam or clay loam.

Johns Series

The Johns series consists of soils that formed in loamy marine and alluvial sediment on nearly level flood plains of the Edisto River. Slopes are 0 to 2 percent. These soils are fine-loamy over sandy or sandy-skeletal, siliceous, thermic Aquic Hapludults.

Johns soils are associated on the landscape with Yemassee, Chipley, Lumbee, Osier, and Rutlege soils. Chipley soils are in positions similar to those of the Johns soils and are Entisols. Lumbee, Osier, and Rutlege soils are lower on the landscape and are dominantly gray throughout. Osier soils are Entisols, and Rutlege soils have an umbric epipedon. Yemassee soils are in an aeric subgroup.

Typical pedon of Johns loamy sand, 0 to 2 percent slopes; about 6 miles southwest of Ridgeville, about 1 mile southeast of the junction of South Carolina Highway 19 and South Carolina Highway 25, about 0.5 mile southwest on dirt road, and 80 feet east of road.

A—0 to 6 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; few large roots and common medium and fine roots; strongly acid; clear smooth boundary.

BE—6 to 12 inches; light yellowish brown (10YR 6/4) sandy loam; common medium distinct dark grayish brown (10YR 4/2) mottles of surface material along root channels; weak fine granular structure; very friable; common fine roots; few fine pores; strongly acid; gradual smooth boundary.

Bt1—12 to 20 inches; brownish yellow (10YR 6/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few fine pores; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—20 to 31 inches; light yellowish brown (10YR 6/4) sandy clay loam; many medium faint brownish yellow (10YR 6/6) mottles and common medium distinct light brownish gray (10YR 6/2) and yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; few fine pores; sand grains coated and bridged with clay; very strongly acid; gradual irregular boundary.

2C1—31 to 42 inches; strong brown (7.5YR 5/8) sand; common medium distinct very pale brown (10YR 7/4) mottles and few medium distinct light gray (10YR 7/2) mottles; single grained; loose; strongly acid; gradual wavy boundary.

2C2—42 to 58 inches; light brownish gray (10YR 6/2) sand; common medium distinct very pale brown (10YR 7/4) and brownish yellow (10YR 6/6) mottles; single grained; loose; strongly acid; gradual wavy boundary.

2C3—58 to 80 inches; light gray (10YR 7/2) coarse sand; brownish yellow (10YR 6/6) stains on few sand grains; single grained; loose; common uncoated quartz pebbles; medium acid.

The solum ranges from 25 to 39 inches in thickness. Most pedons have small quartz pebbles in the lower part of the C horizon.

The A horizon has hue of 10YR, value of 3 to 5, and chroma or 1 or 2. It commonly is loamy sand but is loamy fine sand in some pedons.

Some pedons have an E horizon that has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. Mottles in shades of brown or yellow are in some pedons. This horizon is loamy sand or loamy fine sand.

The Bt horizon has hue of 10YR, value of 5 to 7, and chroma of 4 to 8. In most pedons, mottles in shades of brown, yellow, or gray are in the lower part of this horizon. The Bt horizon is sandy clay loam or sandy loam.

Some pedons have a Btg horizon that has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Mottles in shades of red, brown, or yellow are in some pedons. The Btg horizon is sandy clay loam or sandy loam.

The C horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 1 to 8. Most pedons have quartz pebbles, some of which are stained with brown or yellow. The C horizon is sand or coarse sand.

Leon Series

The Leon series consists of soils that formed in thick, sandy marine sediment on nearly level upland stream terraces adjacent to the Edisto River flood plain. Slopes are 0 to 2 percent. These soils are sandy, siliceous, thermic Aeric Haplaquods.

The soils in this survey area are taxadjuncts to the Leon series because typically the E and Bh horizons are coarse sand. This difference does not significantly alter the use and behavior of the soils.

Leon soils are associated on the landscape with Chipley, Echaw, Foxworth, Lynn Haven, and Osier soils. Chipley, Echaw, and Foxworth soils are higher on the landscape than the Leon soils and have chroma of 3 or more in the upper part of the profile. Chipley and

Foxworth soils are Entisols. Lynn Haven soils are lower on the landscape and have an umbric epipedon. Osier soils are in positions similar to those of the Leon soils and are Entisols.

Typical pedon of Leon sand; about 1.2 miles south of the intersection of South Carolina Highway 61 and South Carolina Highway 162, 0.7 mile west on unimproved county road, 2,000 feet northeast on unimproved road, and 300 feet northwest of road.

A—0 to 6 inches; very dark gray (10YR 3/1) sand; single grained; loose; common fine and medium roots; very strongly acid; clear smooth boundary.

E—6 to 17 inches; light brownish gray (10YR 6/2) coarse sand; single grained; loose; few fine roots; strongly acid; abrupt smooth boundary.

Bh1—17 to 25 inches; dark reddish brown (5YR 2/2) coarse sand; weak fine granular structure; very friable; few fine roots; weakly cemented; very strongly acid; gradual smooth boundary.

Bh2—25 to 65 inches; very dark gray (N 3/0) coarse sand; few medium distinct dark reddish brown (5YR 2/2) mottles; weak fine granular structure; very friable; very strongly acid; clear smooth boundary.

C—65 to 80 inches; brown (10YR 5/3) coarse sand; structureless; loose; very strongly acid.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1, or it is neutral and has value of 2 to 4. This horizon commonly is sand but is fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 8, and chroma of 1 to 2, or it is neutral and has value of 5 to 8. This horizon is sand or coarse sand.

The Bh horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 or 2, or it is neutral and has value of 2 or 3. This horizon is coarse sand, sand, or loamy sand.

The C horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. It is sand, fine sand, or coarse sand.

Lumbee Series

The Lumbee series consists of soils that formed in loamy marine sediment on flood plains of the Edisto River. Slopes are 0 to 2 percent. These soils are fine-loamy over sandy or sandy-skeletal, siliceous, thermic Typic Ochraquults.

Lumbee soils are associated on the landscape with Chipley, Johns, Osier, Grifton, and Nakina soils. Chipley and Johns soils are higher on the landscape than the Lumbee soils. Osier and Grifton soils are in positions similar to those of the Lumbee soils. Chipley and Osier soils are Entisols. Johns soils are Udults. Grifton soils have a solum that is 40 inches or more thick, and they are Alfisols. Nakina soils are lower on the landscape and have an umbric epipedon.

Typical pedon of Lumbee fine sandy loam, occasionally flooded; about 0.5 mile south of Grover on U.S. Highway 15 at St. Lukes Church, about 1.3 miles west on unimproved paper company road, about 1.3 miles southwest on paper company road, about 0.7 mile south on paper company road, and 50 feet east of 90-degree bend in road.

Ap—0 to 5 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine subangular blocky structure; very friable; many fine roots and common medium roots; very strongly acid; clear smooth boundary.

Btg1—5 to 10 inches; gray (10YR 5/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) and yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; common fine roots and few medium roots; few fine pores; very strongly acid; gradual wavy boundary.

Btg2—10 to 26 inches; gray (10YR 6/1) sandy clay loam; few medium distinct brownish yellow (10YR 6/6) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; common fine roots; strongly acid; gradual wavy boundary.

BCg—26 to 37 inches; gray (10YR 6/1) sandy loam; strata of loamy sand and sand; common medium distinct brownish yellow (10YR 6/6) mottles and common medium distinct light yellowish brown (10YR 6/4) mottles; weak fine granular structure; very friable; strongly acid; clear smooth boundary.

2Cg1—37 to 56 inches; gray (10YR 6/1) sand; common medium distinct light yellowish brown (10YR 6/4) mottles and few medium distinct yellowish brown (10YR 5/8) mottles; single grained; loose; strongly acid; clear wavy boundary.

2Cg2—56 to 70 inches; light gray (10YR 7/2) coarse sand; single grained; loose; strongly acid.

The solum ranges from 24 to 39 inches in thickness.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. It commonly is fine sandy loam but is loamy sand, loamy fine sand, or sandy loam in some pedons.

Some pedons have an E horizon that has hue of 10YR, value of 5 or 6, and chroma of 1 to 3. It is sandy loam, loamy sand, or loamy fine sand.

The Btg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. It has mottles in shades of red, brown, or yellow. This horizon is sandy loam, sandy clay loam, or clay loam.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, or yellow. This horizon is sandy loam or loamy sand. Some pedons are stratified with textures ranging from sandy loam to coarse sand.

The 2Cg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 to 3. It has mottles in shades of brown or yellow. This horiozn is sand, coarse sand, or loamy sand.

Lynchburg Series

The Lynchburg series consists of soils that formed in loamy marine sediment on nearly level upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Aeric Paleaquults.

Lynchburg soils are associated on the landscape with Coxville, Goldsboro, Noboco, Pelham, Rains, and Grifton soils. Coxville, Pelham, Rains, and Grifton soils are lower on the landscape than the Lynchburg soils and have chroma of 2 or less throughout the profile. Coxville soils have a clayey Bt horizon. Pelham soils are in an arenic subgroup. Grifton soils are Alfisols. Goldsboro and Noboco soils are higher on the landscape and are Udults.

Typical pedon of Lynchburg loamy sand; about 0.7 mile northwest of the intersection of South Carolina Highway 20 and U.S. Highway 178, 100 feet north of highway or about 400 feet northwest of Shady Grove Church.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots and few medium roots; medium acid; clear smooth boundary.

BE—7 to 13 inches; brown (10YR 5/3) sandy loam; common medium faint yellowish brown (10YR 5/4) mottles and few fine faint grayish brown mottles; weak fine subangular blocky structure; very friable; few fine and medium roots; strongly acid; clear wavy boundary.

Bt—13 to 17 inches; yellowish brown (10YR 5/4) sandy clay loam; few fine distinct yellowish brown (10YR 5/8) and grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; friable; very few faint clay films along old root channels; few fine roots; strongly acid; gradual wavy boundary.

Btg1—17 to 42 inches; gray (10YR 6/1) sandy clay loam; common medium distinct yellowish brown (10YR 5/8) mottles, few medium prominent red (2.5YR 4/8) mottles, and few medium distinct yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; few fine pores; strongly acid; gradual wavy boundary.

Btg2—42 to 54 inches; gray (10YR 6/1) sandy clay loam; thin coatings of sandy loam on faces of peds; common medium distinct yellowish brown (10YR 5/8) mottles and few medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine roots; few fine pores; extremely acid; gradual wavy boundary.

Btg3—54 to 80 inches; gray (10YR 5/1) sandy clay; thin coatings of sandy clay loam and sandy loam on faces of peds; common medium distinct red (10R 4/6) and few fine distinct brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm; very few faint clay films on faces of peds; few fine roots; few fine pores; extremely acid.

The solum ranges form 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. It commonly is loamy sand but is loamy fine sand in some pedons.

Some pedons have an E horizon that has hue of 10YR, value of 4 to 7, and chroma of 1 to 4. It is loamy sand or loamy fine sand.

The BE horizon has hue of 10YR, value of 4 to 7, and chroma of 3 to 6. Yellow and brown mottles are in most pedons. This horizon is sandy loam.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. It has mottles in shades of brown, yellow, or gray. This horizon is sandy loam or sandy clay loam. Some pedons do not have a Bt horizon.

The Btg horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. This horizon is sandy clay loam. In some pedons, it is sandy clay loam in the upper part and sandy clay in the lower part.

Lynn Haven Series

The Lynn Haven series consists of soils that formed in sandy marine sediment in nearly level, slight depressions and drainageways. Slopes are 0 to 2 percent. These soils are sandy, siliceous, thermic Typic Haplaquods.

Lynn Haven soils are associated on the landscape with Chipley, Echaw, Leon, Osier, Pelham, and Rutlege soils. Chipley and Echaw soils are higher on the landscape than the Lynn Haven soils and have chroma of 3 or more in the subsurface horizon. Chipley soils are Entisols. Leon, Osier, and Pelham soils are slightly higher on the landscape. Leon soils do not have an umbric epipedon. Osier soils are Entisols, and Pelham soils are Aquults. Rutlege soils are in positions similar to those of the Lynn Haven soils and are Inceptisols.

Typical pedon of Lynn Haven fine sand; about 1 mile south of Dorchester, 185 feet east of unimproved secondary road 248, and 150 feet south of road in woodland.

A—0 to 10 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

E—10 to 19 inches; light gray (10YR 7/1) fine sand; common streaks of dark gray fine sand mostly along old root channels; single grained; loose; few fine and medium roots; many uncoated sand grains; very strongly acid; abrupt wavy boundary.

Bh1—19 to 38 inches; dark reddish brown (5YR 2/2) fine sand; weak fine granular structure; weakly cemented; friable; few fine roots; sand grains coated with organic matter; very strongly acid; gradual wavy boundary.

Bh2—38 to 49 inches; dark brown (7.5YR 3/2) loamy fine sand; weak fine granular structure; friable; most sand grains coated with organic matter; few small pockets of uncoated sand grains; few medium fragments of ironstone; very strongly acid; gradual wavy boundary.

C—49 to 75 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; very strongly acid.

The sand extends to a depth of more than 80 inches.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1; or it is neutral and has value of 2 or 3.

The E horizon has hue of 10YR or 2.5Y, value 5 to 7, and chroma of 1 or 2. Some pedons have mottles that have higher chroma.

The Bh horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 4. Pockets of grayish sand are in some pedons. This horizon is sand or loamy fine sand.

The C horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 to 3. Mottles in shades of red, brown, or yellow are in some pedons.

Mouzon Series

The Mouzon Series consists of soils that formed in loamy marine sediment on broad, nearly level, low stream terraces. Slopes dominantly are less than 1 percent, but range from 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Albaqualfs.

Mouzon soils are associated on the landscape with Brookman, Eulonia, Ogeechee, Wahee, and Grifton soils. Brookman soils are lower on the landscape than the Mouzon soils and have an umbric epipedon. Eulonia and Wahee soils are higher on the landscape and have a clayey particle-size control section. Eulonia soils are Udults. Wahee soils are in an aeric subgroup. Ogeechee and Grifton soils are in positions similar to those of the Mouzon soils. Ogeechee and Grifton soils have a more permeable Bt horizon.

Typical pedon of Mouzon fine sandy loam, occasionally flooded; about 10 miles southwest of Summerville, about 2 miles northeast of the intersection of South Carolina Highway 84 and South Carolina Highway 163, about 0.5 mile southeast of South Carolina Highway 163 on a paper company road, 100 feet south of road.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine roots, common medium roots, and few large roots; very strongly acid; clear smooth boundary.

E—5 to 8 inches; light gray (10YR 7/1) loamy fine sand; common medium distinct dark grayish brown (10YR 4/2) mottles; weak fine granular structure; very friable; common fine roots and few medium roots; medium acid; abrupt smooth boundary.

Btg1—8 to 22 inches; gray (10YR 5/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/8) mottles and common medium distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; common fine pores; neutral, gradual wavy boundary.

Btg2—22 to 61 inches; gray (10YR 6/1) sandy clay loam; many medium distinct brownish yellow (10YR 6/8) mottles; weak coarse prismatic structure parting to weak medium subangular blocky; firm; few faint clay films on faces of peds; few fine roots; few fine tubular pores; common fine and medium concretions of calcium carbonate; neutral; gradual wavy boundary.

BCg—61 to 68 inches; light brownish gray (2.5Y 6/2) sandy clay loam; strata and pockets of sandy loam and loamy sand; many medium distinct brownish yellow (10YR 6/8) mottles and few medium distinct greenish gray (5BG 6/1) mottles; weak medium subangular blocky structure; friable; neutral; gradual smooth boundary.

Cg—68 to 80 inches; light gray (5Y 7/2) stratified sandy clay loam and loamy sand; common medium distinct brownish yellow (10YR 6/8) mottles and common medium distinct greenish gray (5 BG 6/1) mottles; massive; friable; neutral.

The solum ranges from 48 to more than 60 inches in thickness.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2. It commonly is fine sandy loam but is sandy loam in some pedons.

The E horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It is loamy fine sand or fine sandy loam.

The Btg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2. It is clay loam or sandy clay loam. In some pedons, the lower part of the Btg horizon is sandy clay or clay.

The BCg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of brown, yellow, or gray. This horizon is sandy clay loam, fine sandy loam, or sandy clay. Some pedons have strata of sandy clay, sandy clay loam, sandy loam, or loamy sand.

The Cg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. It is sand or loamy sand, or it is stratified with sandy and loamy material.

Nakina Series

The Nakina series consists of soils that formed in loamy marine sediment in shallow depressions and drainageways of small streams and rivers. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Umbraqualfs.

Nakina soils are associated on the landscape with Brookman, Lynn Haven, Grifton, Ogeechee, Mouzon, Elloree, and Yemassee soils. Brookman and Lynn Haven soils are in positions similar to those of the Nakina soils. Brookman soils have a clayey particle-size control section. Lynn Haven soils are sandy throughout and are Spodosols. Grifton, Ogeechee, Mouzon, and Elloree soils are slightly higher on the landscape and have an ochric epipedon. Elloree soils are in an arenic subgroup. Yemassee soils are higher on the landscape and are in an aeric subgroup.

Typical pedon of Nakina fine sandy loam; about 9 miles southeast of Summerville, about 0.7 mile northeast of junction of South Carolina Highway 642 and Ashley Phosphate Road (South Carolina Highway 62), about 0.5 mile northwest on housing subdivision road, and 200 feet west of 90 degree curve of road.

A—0 to 11 inches; black (10YR 2/1) fine sandy loam; few streaks of dark gray along root channels; weak fine subangular blocky structure; very friable; common fine and few medium roots; very strongly acid; clear smooth boundary.

E—11 to 18 inches; dark gray (10YR 4/1) fine sandy loam; weak fine subangular blocky structure; very friable; few fine roots and pores; very strongly acid; clear wavy boundary.

Btg1—18 to 37 inches; gray (10YR 5/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/6) mottles and common medium faint dark gray (10YR 4/1) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots and pores; very strongly acid; gradual wavy boundary.

Btg2—37 to 45 inches; gray (10YR 5/1) sandy clay loam; pockets of sandy clay; common medium distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine roots and pores; very strongly acid; gradual wavy boundary.

BCg—45 to 61 inches; gray (10YR 5/1) clay loam; strata of sandy clay loam; common coarse distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; firm; few fine roots and pores; very strongly acid; gradual wavy boundary.

Cg1—61 to 70 inches; dark gray (10YR 4/1) sandy clay loam; strata of sandy clay; common coarse distinct strong brown (7.5YR 5/8) mottles and common medium distinct light gray (5Y 7/2) mottles; massive; firm; medium acid; gradual wavy boundary.

Cg2—70 to 80 inches; light olive gray (5Y 6/2) sandy clay loam; strata of sandy loam; common coarse distinct strong brown (7.5YR 5/8) mottles and common medium distinct gray (10YR 5/1) mottles; massive; friable; medium acid.

The solum ranges from 40 to more than 60 inches in thickness.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It commonly is fine sandy loam but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It is loamy fine sand or fine sandy loam.

The Btg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2. It has mottles in shades of brown or yellow. This horizon is fine sandy loam, sandy clay loam, or clay loam. Some pedons have strata of variable textures in the lower part of the Btg horizon.

The Cg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of brown or yellow. This horizon is stratified with variable textures.

Noboco Series

The Noboco series consists of soils that formed in loamy marine sediment on nearly level upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Paleudults.

Noboco soils are associated on the landscape with Blanton, Bonneau, Daleville, Goldsboro, Izagora, Jedburg, Lynchburg, and Rains soils. Blanton and Bonneau soils are in positions similar to those of the Noboco soils. Blanton soils are in a grossarenic subgroup. Bonneau soils are in an arenic subgroup. Goldsboro and Izagora soils are slightly lower on the landscape and have mottles with chroma of 2 or less within 30 inches of the surface. Daleville, Jedburg, Lynchburg, and Rains soils are lower on the landscape. Jedburg and Lynchburg soils are in an aeric subgroup. Daleville and Rains soils are Aquults.

Typical pedon of Noboco loamy sand, 0 to 2 percent slopes; about 2.25 miles south of Reevesville on South Carolina Highway 16, about 0.5 mile east on county dirt road, 50 feet south of power pole, in planted pine.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine and few medium roots; medium acid; clear wavy boundary.

E—6 to 14 inches; light yellowish brown (10YR 6/4) loamy sand; common streaks of dark gray (10YR 4/1) loamy sand along old root channels; weak fine granular structure; very friable; common fine roots; few fine tubular pores; medium acid; clear smooth boundary.

Bt1—14 to 40 inches; yellowish brown (10YR 5/6) sandy clay loam; few medium distinct yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; few faint clay films along old root channels and on faces of peds; few fine roots; few fine tubular pores; strongly acid; gradual smooth boundary.

Bt2—40 to 61 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct gray (10YR 6/1) mottles and few medium distinct yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; few fine roots; few fine tubular pores; very strongly acid; gradual wavy boundary.

Bt3—61 to 70 inches; mottled yellowish brown (10YR 5/8), gray (10YR 6/1), and red (2.5YR 4/8) sandy clay loam; thin strata of loamy sand; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—70 to 80 inches; gray (10YR 6/1) sandy clay loam; thin strata of loamy sand; many medium prominent red (10R 4/8) mottles and common medium distinct brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; firm; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness. Less than 5 percent of plinthite and iron nodules are in the lower part of the subsoil in some pedons.

The A horizon has hue of 10YR, value of 4 to 6, and chroma of 2 to 6. Some pedons have few uncoated sand grains. This horizon commonly is loamy sand but is sand, loamy fine sand, or sandy loam in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. Some pedons have few uncoated sand grains. This horizon is sand, loamy sand, loamy fine sand, or sandy loam.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 6 or 8. Mottles are in shades of brown, yellow, or red. The lower part of the Bt horizon has gray mottles. The Bt horizon is sandy clay loam or clay loam. Some pedons are sandy clay in the lower part of the Bt horizon.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of brown, yellow, or red. This horizon is sandy clay loam or sandy clay. Most pedons have strata of loamy sand and sand.

Ocilla Series

The Ocilla series consists of soils that formed in sandy and loamy marine sediments on upland terraces. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Aquic Arenic Paleudults.

Ocilla soils are associated on the landscape with Albany, Blanton, Bonneau, Echaw, Foxworth, Goldsboro, Foreston, Osier, Pelham, and Rains soils. Albany, Echaw, Goldsboro, and Foreston soils are slightly higher on the landscape than the Ocilla soils. Albany soils are in a grossarenic subgroup. Echaw soils are Spodosols. Goldsboro soils are not in an arenic subgroup. Foreston soils have a coarse-loamy particle-size control section. Blanton, Bonneau, and Foxworth soils are higher on the landscape. Blanton soils are in a grossarenic subgroup. Bonneau soils do not have gray mottles within 36 inches of the surface. Foxworth soils are Entisols. Osier and Pelham soils are lower on the landscape, and they have dominant chroma of 2 or less throughout the profile. Osier soils are Entisols.

Typical pedon of Ocilla sand, 0 to 2 percent slopes; about 2.5 miles northwest of Rosinville, about 1 mile north of the junction of South Carolina Highway 11 and South Carolina Highway 337, about 700 feet southeast of South Carolina Highway 337 along frontage road by Interstate Highway 26, and 150 feet south of frontage road.

A—0 to 6 inches; dark grayish brown (10YR 4/2) sand; single grained; loose; many fine and common medium roots; very strongly acid; clear wavy boundary.

E1—6 to 10 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; loose; common fine roots; strongly acid; gradual wavy boundary.

E2—10 to 23 inches; brownish yellow (10YR 6/6) loamy sand; common medium distinct pale brown (10YR 6/3) mottles; weak fine granular structure; loose; common fine roots; few fine pores; strongly acid; gradual wavy boundary.

Bt1—23 to 31 inches; yellowish brown (10YR 5/8) sandy loam; common medium distinct gray (10YR 6/1) and yellowish red (5YR 5/8) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; common fine roots; few fine pores; very strongly acid; gradual wavy boundary.

Bt2—31 to 52 inches; yellowish brown (10YR 5/8) sandy loam; many medium distinct gray (10YR 6/1) and red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg—52 to 65 inches; gray (10YR 6/1) sandy loam; many medium distinct brownish yellow (10YR 6/6) mottles and few medium distinct yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—65 to 80 inches; light gray (10YR 7/1) sandy loam; strata of loamy sand; common medium distinct brownish yellow (10YR 6/6) mottles and few medium distinct yellowish red (5YR 5/8) mottles; weak fine subangular blocky structure; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2. It commonly is sand but is loamy sand or loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 6. It has mottles in shades of brown, yellow, or gray. This horizon is sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 8. It has mottles in shades of red, brown, yellow, or gray. This horizon is sandy loam or sandy clay loam.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, or yellow. This horizon is sandy clay loam or sandy loam.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, or yellow. This horizon is sandy clay loam or sandy loam. Most pedons have strata of loamy sand.

Ogeechee Series

The Ogeechee series consists of soils that formed in loamy marine sediment on nearly level stream terraces at an elevation of less than 42 feet above sea level. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Ochraquults.

Ogeechee soils are associated on the landscape with Nakina, Elloree, Grifton, Yauhannah, and Yemassee soils. Nakina soils are lower on the landscape than the Ogeechee soils and have an umbric epipedon. Elloree and Grifton soils are in positions similar to those of the Ogeechee soils. Elloree soils are in an arenic subgroup, and Grifton soils are Alfisols. Yauhannah and Yemassee soils are higher on the landscape and have dominant chroma of 3 or more in the subsurface layer or the upper part of the subsoil.

Typical pedon of Ogeechee fine sandy loam; about 2.8 miles southwest of Ridgeville, southwest of Four Hole Swamp bridge on South Carolina Highway 56, 200 feet east of Four Hole Swamp stream and 50 feet north of road in woodland.

A—0 to 4 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.

E—4 to 12 inches; gray (10YR 6/1) fine sandy loam; common fine distinct brownish yellow (10YR 6/6) mottles; weak fine granular structure; very friable; common fine and medium roots; strongly acid; gradual wavy boundary.

Btg—12 to 36 inches; gray (10YR 6/1) sandy clay loam; common medium distinct yellowish brown (10YR 5/6) mottles and few fine prominent yellowish red (5YR 5/8) mottles; weak fine and medium subangular blocky structure; friable; few fine and medium roots; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—36 to 57 inches; gray (10YR 5/1) sandy clay loam; common coarse distinct yellowish brown (10YR 5/8) mottles; stratified with pockets of light gray (10YR 7/1) sand; weak medium subangular blocky structure; friable; very strongly acid; clear wavy boundary.

2Cg—57 to 65 inches; gray (10YR 6/1) fine sand; few fine distinct yellowish brown (10YR 5/6) mottles; massive; very friable; few coatings on sand grains; strongly acid.

The solum ranges from 40 to 60 inches in thickness.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2. It commonly is fine sandy loam but is sandy loam, loamy fine sand, or loamy sand in some pedons.

The E horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. It has mottles in shades of brown or yellow. This horizon is fine sandy loam, sandy loam, or loamy fine sand.

The Btg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. It is sandy clay loam or clay loam.

The BCg horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. This horizon is sandy clay loam or sandy loam. Some pedons are stratified sandy clay loam, sandy loam, and sand.

The C or 2C horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, yellow, or gray. This horizon is fine sand, sand, or loamy sand. Some pedons are stratified with variable textures.

Osier Series

The Osier series consists of soils that formed in thick, sandy sediment in depressional areas and on lowlands near streams. Slopes are 0 to 2 percent. These soils are siliceous, thermic Typic Psammaquents.

Osier soils are associated on the landscape with Albany, Chipley, Plummer, and Rutlege soils. Albany and Chipley soils are higher on the landscape and have dominant chroma of 3 or more in the upper part of the profile. Plummer soils are in positions similar to those of the Osier soils. Albany and Plummer soils are Ultisols. Rutlege soils are lower on the landscape and have an umbric epipedon.

Typical pedon of Osier loamy fine sand, frequently flooded; about 4 miles southeast of Harleyville, 1,300 feet north of the junction of South Carolina Highway 139 and U.S. Highway 178, and 60 feet east of South Carolina Highway 139.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) loamy fine sand; common medium distinct grayish brown (10YR 5/2) mottles; weak medium granular structure; very friable; common fine and few medium roots; strongly acid; clear smooth boundary.
Cg1—3 to 26 inches; light gray (10YR 7/2) fine sand; common medium distinct dark brown (10YR 4/3) streaks; single grained; loose; thin strata of loamy sand; medium acid; gradual wavy boundary.
Cg2—26 to 53 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; strongly acid; gradual wavy boundary.
Cg3—53 to 80 inches; grayish brown (10YR 5/2) sand; single grained; loose; common uncoated sand grains; strongly acid.

The Osier soils are sandy to a depth of more than 80 inches.

The A horizon has hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2. It commonly is loamy fine sand but is sand or fine sand in some pedons.

The C horizon has hue of 10YR or 2.5Y, value of 3 to 8, and chroma of 1 or 2, or it is neutral and has value of 3 to 8. Mottles range from none to many in shades of brown, yellow, or gray. This horizon is fine sand or sand. Some pedons have thin strata of material ranging from sand to sandy loam.

Pantego Series

The Pantego series consists of soils that formed in loamy marine sediment in depressional areas on upland terraces. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Umbric Paleaquults.

Pantego soils are associated on the landscape with Coxville, Goldsboro, Lynchburg, Pelham, and Rains soils. These soils are higher on the landscape than the Pantego soils and do not have an umbric epipedon. Pelham soils are in an arenic subgroup. Coxville soils have more than 35 percent clay in the control section.

Typical pedon of Pantego sandy loam; about 3 miles north of the intersection of U.S. Highway 78 and South Carolina Highway 16 in Reevesville, about 0.5 mile west on South Carolina Highway 472, about 0.75 mile north on unimproved county road, about 0.25 mile east on unimproved county road, 400 feet northwest of road along power line right-of-way, and 100 feet north of power line right-of-way.

A—0 to 12 inches; black (10YR 2/1) sandy loam; weak medium subangular blocky structure; very friable; many fine and common medium roots; extremely acid; clear smooth boundary.
E—12 to 18 inches; light brownish gray (10YR 6/2) loamy sand; common medium distinct dark gray (10YR 4/1) mottles; single grained; very friable; common fine roots; weakly cemented; strongly acid; clear wavy boundary.
Btg1—18 to 37 inches; gray (10YR 5/1) sandy clay loam; common medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; slightly sticky; very few faint clay films on faces of peds; common fine and few medium roots; extremely acid; gradual wavy boundary.
Btg2—37 to 74 inches; gray (10YR 5/1) sandy clay; few medium distinct brownish yellow (10YR 6/8) mottles; strong medium subangular blocky structure; firm; few faint clay films on faces of peds; few fine roots; extremely acid; gradual wavy boundary.
BCg—74 to 80 inches; gray (10YR 5/1) sandy clay loam; few medium distinct brownish yellow (10YR 6/6) and light gray (10YR 7/2) mottles; weak medium subangular blocky structure; firm; extremely acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It commonly is sandy loam but is fine sandy loam or loam in some pedons.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. Some pedons have mottles of darker color surface material. This horizon is loamy sand, loamy fine sand, fine sandy loam, or sandy loam.

The Btg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. Some pedons have mottles in shades of brown or yellow. This horizon commonly is sandy clay loam but ranges to sandy clay in the lower part.

The BCg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of brown, yellow, or gray. This horizon is sandy loam, sandy clay loam, or sandy clay; or it is stratified with these textures.

Pelham Series

The Pelham series consists of soils that formed in loamy marine sediment in nearly level depressions and drainageways. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Arenic Paleaquults.

Pelham soils are associated on the landscape with Albany, Lynchburg, Ocilla, Osier, Plummer, and Rains soils. Albany, Lynchburg, and Ocilla soils are higher on the landscape than the Pelham soils and have chroma of 3 or more in the upper part of the profile. Albany soils are in a grossarenic subgroup. Lynchburg soils are in an aeric subgroup. Osier and Plummer soils are in positions similar to those of the Pelham soils. Osier soils are Entisols. Plummer soils are in a grossarenic subgroup. Rains soils are slightly lower on the landscape and are not in an arenic subgroup.

Typical pedon of Pelham sand; about 3.6 miles north of St. George; 5,700 feet north of the junction of South Carolina Highway 54 and South Carolina Highway 73, and 45 feet east of center of South Carolina Highway 54.

A—0 to 7 inches; very dark gray (10YR 3/1) sand; weak fine granular structure; very friable; many fine and common medium roots; very strongly acid; clear smooth boundary.

E1—7 to 14 inches; gray (10YR 6/1) sand; common fine streaks of dark gray (10YR 4/1) fine sand mostly along old root channels; single grained; loose; few fine roots; strongly acid; gradual wavy boundary.

E2—14 to 22 inches; light brownish gray (10YR 6/2) loamy sand; common medium moderately cemented bodies with dominantly yellowish red centers; common medium faint dark grayish brown (10YR 4/2) mottles; weak medium subangular blocky structure; very friable; strongly acid; gradual wavy boundary.

E3—22 to 35 inches; light brownish gray (10YR 6/2) loamy sand; many medium faint pale brown (10YR 6/3) mottles and few fine distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; strongly acid; gradual wavy boundary.

Btg—35 to 62 inches; light gray (10YR 7/1) sandy loam; many medium distinct brownish yellow (10YR 6/6) mottles and common medium distinct strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine distinct lenses of white (10YR 8/1) uncoated sand grains; very strongly acid; gradual wavy boundary.

BCg—62 to 80 inches; light gray (10YR 7/1) sandy clay loam; many medium distinct light yellowish brown (10YR 6/4) mottles and common medium distinct brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; firm; weakly stratified; very strongly acid.

The solum ranges from 60 to more than 80 inches in thickness.

The A horizon has hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2. It commonly is sand but is loamy sand in some pedons.

The E horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. Most pedons have mottles in shades of red, brown, yellow, or gray. This horizon is sand or loamy sand.

The Btg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or it is neutral and has value of 4 to 7. Mottles in shades of red, brown, or yellow are few to many. This horizon is sandy loam or sandy clay loam.

The BCg horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. Mottles in shades of red, yellow, brown, or gray are in most pedons. This horizon is sandy clay loam. Most pedons have strata of sand or loamy sand in this horizon.

Plummer Series

The Plummer series consists of soils that formed in sandy and loamy marine sediment in nearly level drainageways and depressions. Slopes are 0 to 2 percent. These soils are loamy, siliceous, thermic Grossarenic Paleaquults.

Plummer soils are associated on the landscape with Albany, Chipley, Osier, Pelham, and Rutlege soils. Albany and Chipley soils are higher on the landscape than the Plummer soils and have matrix colors with chroma of 3 or more in the upper part of the profile. Chipley soils are Entisols. Osier and Pelham soils are in positions similar to those of the Plummer soils. Osier soils are Entisols, and Pelham soils are in an arenic subgroup. Rutlege soils are lower on the landscape and have an umbric epipedon.

Typical pedon of Plummer loamy sand; about 2 miles southwest of Dorchester, about 1 mile south of South Carolina Highway 247 on South Carolina Highway 246, about 1,000 feet southwest on road in woodland, and 250 feet northwest of the junction with another road.

A—0 to 9 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; common fine roots; very strongly acid; abrupt smooth boundary.

E1—9 to 24 inches; gray (10YR 5/1) sand; common medium faint grayish brown (10YR 5/2) mottles and common medium distinct light yellowish brown (10YR 6/4) mottles; single grained; loose; few fine roots; strongly acid; clear wavy boundary.

E2—24 to 45 inches; light gray (10YR 7/1) sand; single grained; loose; strongly acid; gradual wavy boundary.

E3—45 to 58 inches; grayish brown (10YR 5/2) sand; many coarse distinct light gray (10YR 7/2) mottles; single grained; loose; very strongly acid; gradual wavy boundary.

Btg—58 to 75 inches; light gray (10YR 7/1) sandy loam; weak fine subangular blocky structure; very friable; sand grains bridged with clay; very strongly acid.

The solum ranges from 65 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. It commonly is loamy sand but is loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Some pedons have mottles in shades of brown or yellow. This horizon is sand or loamy sand.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Some pedons have mottles in shades of brown or yellow. This horizon is sandy loam, fine sandy loam, or sandy clay loam.

Rains Series

The Rains series consists of soils that formed in loamy marine sediment on broad flats and in nearly level depressions and drainageways. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Typic Paleaquults.

Rains soils are associated on the landscape with Coxville, Goldsboro, Lynchburg, Pantego, Pelham, and Grifton soils. Coxville soils have a clayey particle-size control section. Goldsboro soils are higher on the landscape than the Rains soils and are Udults. Lynchburg soils are slightly higher on the landscape and are in an aeric subgroup. Pantego soils are lower on the landscape and have an umbric epipedon. Pelham soils are in an arenic subgroup. Grifton soils are Alfisols.

Typical pedon of Rains sandy loam; about 2 miles northwest of St. George, about 1.3 miles northwest of the junction of South Carolina Highway 119 and South Carolina Highway 39, and 100 feet east of South Carolina Highway 39.

A—0 to 4 inches; very dark gray (10YR 3/1) sandy loam; weak medium subangular blocky structure; very friable; many fine and medium roots and few large roots; very strongly acid; clear smooth boundary.

E—4 to 9 inches; gray (10YR 6/1) sandy loam; common medium distinct dark brown (10YR 3/3) mottles along old root channels; weak medium subangular blocky structure; very friable; common fine roots and few medium roots; few fine pores; very strongly acid; clear wavy boundary.

Btg1—9 to 17 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; few fine pores; very strongly acid; gradual wavy boundary.

Btg2—17 to 42 inches; gray (10YR 6/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/8) and yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; few fine pores; very strongly acid; gradual wavy boundary.

Btg3—42 to 56 inches; gray (10YR 5/1) clay loam; strata of sandy clay; common medium distinct brownish yellow (10YR 6/8), yellowish red (5YR 5/8), and brown (7.5YR 4/2) mottles; strong medium subangular blocky structure; firm; few faint clay films on faces of peds; few fine pores; very strongly acid; gradual wavy boundary.

BCg—56 to 80 inches; gray (10YR 5/1) sandy clay loam; strata of sandy loam; common medium distinct red (2.5YR 4/8) and brownish yellow (10YR 6/8) mottles; strong medium subangular blocky structure; firm; very strongly acid.

The solum ranges from 60 to 80 inches in thickness.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It commonly is sandy loam but is loamy fine sand or fine sandy loam in some pedons.

The E horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. It has mottles in shades of brown and gray. This horizon is loamy fine sand, sandy loam, or fine sandy loam.

The Btg horizon has hue of 10YR, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of red, yellow, brown, or gray. This horizon is sandy clay loam with strata of sandy loam or sandy clay in the lower part.

Rutlege Series

The Rutlege series consists of soils that formed in thick, sandy marine sediment in nearly level drainageways of small streams and swamps. Slopes are 0 to 2 percent. These soils are sandy, siliceous, thermic Typic Humaquepts.

Rutlege soils are associated on the landscape with Albany, Blanton, Lynn Haven, Ocilla, Osier, and Plummer soils. Albany, Blanton, and Ocilla soils are higher on the landscape than the Rutlege soils. Albany and Blanton soils are in a grossarenic subgroup. Ocilla soils are in an arenic subgroup. Lynn Haven soils are in positions similar to those of the Rutlege soils and are Spodosols. Osier and Plummer soils are slightly higher on the landscape and do not have an umbric epipedon. Plummer soils are in a grossarenic subgroup.

Typical pedon of Rutlege loamy fine sand, frequently flooded; about 1.3 miles south of Dorchester on South Carolina Highway 23 and 200 feet east of the highway in Halfway Gut Creek.

A1—0 to 13 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; common fine and few medium roots; very strongly acid; gradual smooth boundary.

A2—13 to 21 inches; dark gray (10YR 4/1) loamy fine sand; single grained; loose; few fine roots; very strongly acid; clear smooth boundary.

Cg1—21 to 34 inches; light brownish gray (10YR 6/2) fine sand; few streaks of dark gray (10YR 4/1) along old root channels; single grained; loose; strongly acid; gradual smooth boundary.

Cg2—34 to 44 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

Cg3—44 to 65 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

Cg4—65 to 75 inches; grayish brown (10YR 5/2) sand; single grained; loose; few small pebbles; strongly acid.

The Rutlege soils are sand to a depth of 60 to 80 inches. Small pebbles are in the lower part of the C horizon in most pedons.

The upper part of the A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The lower part has hue of 10YR, value of 4, and chroma of 1 or 2. The A horizon commonly is loamy fine sand but is loamy sand in some pedons.

The Cg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It is sand, fine sand, or loamy sand.

Seagate Series

The Seagate series consists of soils that formed in sandy and loamy marine sediments on nearly level stream terraces throughout the county. Slopes are 0 to 2 percent. These soils are sandy over loamy, siliceous, thermic Ultic Haplohumods.

The Seagate soils in this survey area are a taxadjunct to the Seagate series because they have more than 50 percent fine or coarser sand in the argillic horizon and are dominantly gray in the upper part of the Bt horizon. These differences do not significantly alter the use and behavior of these soils.

Seagate soils are associated on the landscape with Chipley, Echaw, Leon, Lynchburg, Ocilla, and Pelham soils. Chipley and Echaw soils are higher on the landscape than the Seagate soils and are sandy throughout. Echaw soils have a Bh horizon 30 to 50 inches below the surface. Leon and Pelham soils are lower on the landscape. Leon soils are sandy throughout, and Pelham soils are Aquults. Lynchburg and Ocilla soils are in positions similar to those of the Seagate soils and are Ultisols.

Typical pedon of Seagate sand; about 0.75 mile northeast of overpass bridge at the intersection of U.S. Interstate 26 and U.S. Highway 15, about 400 feet north on paper company dirt road, about 0.25 mile northwest on road in woodland, and 100 feet southwest of road.

A—0 to 6 inches; black (10YR 2/1) sand; weak fine granular structure; very friable; many fine and medium roots and few large roots; very strongly acid; clear smooth boundary.

E—6 to 14 inches; gray (10YR 5/1) sand; common streaks of very dark gray (10YR 3/1) sand; single grained; very friable; few fine roots; very strongly acid; abrupt wavy boundary.

Bh—14 to 18 inches; dark reddish brown (5YR 3/2) loamy sand; small streaks of gray (10YR 5/1) and light yellowish brown (10YR 6/4) sand in old root channels; structureless; friable, weakly cemented; few fine roots; very strongly acid; abrupt wavy boundary.

E'—18 to 32 inches; yellow (10YR 7/6) sand; common medium distinct brownish yellow (10YR 6/8) and light yellowish brown (10YR 6/4) mottles and few medium distinct strong brown (7.5YR 5/8) mottles; single grained; very friable; few fine roots; few weakly cemented nodules; strongly acid; clear wavy boundary.

Btg1—32 to 50 inches; gray (10YR 6/1) fine sandy loam; common medium distinct yellowish brown (10YR 5/8) and light yellowish brown (10YR 6/4) mottles and few medium distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; few fine pores; very strongly acid; gradual wavy boundary.

Btg2—50 to 79 inches; gray (10YR 6/1) fine sandy loam; few fine distinct brownish yellow (10YR 6/8) mottles and few medium distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; few fine pores; very strongly acid.

Depth to the argillic horizon ranges from 20 to 40 inches.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. It commonly is sand but is fine sand or loamy sand in some pedons.

The E horizon has hue of 10YR, value to 5 to 7, and chroma of 1 or 2. Most pedons have streaks or mottles in shades of brown or gray. This horizon is sand or fine sand.

The Bh horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3. Most pedons have streaks or mottles in shades of brown or gray. This horizon is sand, fine sand, or loamy fine sand.

The secondary E horizon has hue of 10YR, value of 5 to 7, and chroma of 2 to 6. It has mottles in shades of brown, yellow, or gray. This horizon is sand, fine sand, or loamy fine sand.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Most pedons have mottles in shades of brown, yellow, or gray. This horizon is sandy clay loam, sandy loam, or fine sandy loam.

Wahee Series

The Wahee series consists of soils that formed in clayey marine sediment on broad, nearly level, low stream terraces at an elevation of less than about 42 feet above sea level. Slopes are 0 to 2 percent. These soils are clayey, mixed, thermic Aeric Ochraquults.

Wahee soils are associated on the landscape with Brookman, Eulonia, Mouzon, Ogeechee, and Yemassee soils. Brookman soils are lower on the landscape than the Wahee soils and have an umbric epipedon. Eulonia soils are higher on the landscape and are Udults. Mouzon and Ogeechee soils are slightly lower on the landscape, have a dominant matrix with chroma of 2 or less, and have a fine-loamy control section. Yemassee soils are in positions similar to those of the Wahee soils and have a fine-loamy control section.

Typical pedon of Wahee fine sandy loam; about 13 miles southwest of Summerville at the intersection of South Carolina Highway 165 and South Carolina Highway 317, about 7.2 miles east of South Carolina

Highway 317, 800 feet north on paper company unimproved road, and 150 feet west of road.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine and few medium roots; strongly acid; clear smooth boundary.

E—6 to 10 inches; brown (10YR 5/3) fine sandy loam; common medium faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/4) mottles and few fine distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; common fine and few medium roots; strongly acid; gradual smooth boundary.

Bt—10 to 15 inches; yellowish brown (10YR 5/4) clay loam; common medium distinct grayish brown (10YR 5/2) and brownish yellow (10YR 6/6) mottles and few medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few fine and medium roots; few pores; very few faint clay films along old root channels; very strongly acid; gradual smooth boundary.

Btg1—15 to 26 inches; gray (10YR 5/1) clay; common medium distinct brownish yellow (10YR 6/8) mottles and common medium prominent red (2.5YR 4/6) mottles; strong coarse prismatic structure; very firm; few fine and medium roots; few pores; many distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Btg2—26 to 45 inches; gray (10YR 5/1) sandy clay loam; common medium distinct brownish yellow (10YR 6/8) mottles and common medium prominent red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; few pores; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

BCg—45 to 59 inches; gray (10YR 6/1) sandy clay loam; common coarse distinct strong brown (7.5YR 5/8) mottles and common medium distinct yellowish brown (10YR 5/4) mottles; few streaks of white (10YR 8/1) stripped sand grains; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Cg—59 to 65 inches; light brownish gray (10YR 6/2) sandy clay loam; common medium distinct gray (10YR 6/1) mottles and few medium distinct brownish yellow (10YR 6/8) mottles; massive; friable; very strongly acid; clear smooth boundary.

2Cg—65 to 80 inches; light brownish gray (2.5Y 6/2) clay; common medium distinct pale olive (5Y 6/3) and strong brown (7.5YR 5/8) mottles and few medium distinct greenish gray (5G 5/1) mottles; massive; firm; very strongly acid.

The solum ranges from 56 to more than 65 inches in thickness.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. It is sandy loam or fine sandy loam.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 or 4. Mottles in shades of brown, yellow, and gray are in most pedons. This horizon is fine sandy loam.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. Mottles are in shades of brown, yellow, red, or gray. This horizon is clay loam, sandy clay, or clay. In some pedons, it is sandy clay loam.

The Btg horizon has hue of 10YR, value 5 or 6, and chroma of 1 or 2. Mottles in shades of red, brown, yellow, or gray are in most pedons. This horizon is clay loam, sandy clay, or clay. In some pedons, the lower part of the Btg horizon is sandy clay loam.

The Cg horizon has hue of 10YR to 5Y, value of 6 or 7, and chroma of 1 or 2. It has mottles in shades of red, yellow, or gray. This horizon is sandy loam or sandy clay loam.

The 2Cg horizon has hue of 2.5Y, value of 6, and chroma of 2. It has mottles in shades of brown or gray. This horizon is clay. Some pedons do not have a 2Cg horizon.

Yauhannah Series

The Yauhannah series consists of soils that formed in loamy marine sediment on broad terraces at an elevation of less than about 42 feet above sea level. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Aquic Hapludults.

Yauhannah soils are associated on the landscape with Chisolm, Coosaw, Eulonia, Ogeechee, Wahee, and Yemassee soils. Chisolm soils are slightly higher on the landscape than the Yauhannah soils and have an arenic epipedon. Coosaw, Wahee, and Yemassee soils are slightly lower on the landscape. Coosaw soils are in an arenic subgroup. Wahee and Yemassee soils are Aquults. Eulonia soils are in positions similar to those of the Yauhannah soils and have a clayey particle-size control section. Ogeechee soils are lower on the landscape and are Aquults.

Typical pedon of Yauhannah loamy fine sand, 0 to 2 percent slopes; about 12 miles southwest of Summerville, 1.5 miles north of the intersection of South Carolina Highway 165 and South Carolina Highway 84, 75 feet east of South Carolina Highway 165, and 200 feet south of communications relay tower.

A—0 to 4 inches; grayish brown (10YR 5/2) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; extremely acid; clear smooth boundary.

E—4 to 18 inches; pale yellow (2.5Y 7/4) loamy fine sand; few medium distinct yellowish brown (10YR 5/6) and grayish brown (10YR 5/2) mottles; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.

BE—18 to 24 inches; brownish yellow (10YR 6/6) fine sandy loam; few fine distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine and medium roots; extremely acid; gradual smooth boundary.

Bt1—24 to 38 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) mottles and few medium distinct light gray (10YR 7/1) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine and medium roots; extremely acid; gradual smooth boundary.

Bt2—38 to 52 inches; brownish yellow (10YR 6/6) sandy clay loam; many medium distinct light gray (10YR 7/2) mottles, many medium prominent red (2.5YR 4/8) mottles, and common medium faint strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; very few faint clay films on faces of peds; friable; extremely acid; gradual smooth boundary.

BCg—52 to 76 inches; light gray (10YR 7/2) sandy clay loam; many medium distinct brownish yellow (10YR 6/6) mottles and common medium prominent red (2.5 YR 4/8) mottles; weak medium subangular blocky structure; friable; common fine lenses of white fine sand; few fine flakes of mica; extremely acid; clear smooth boundary.

C—76 to 80 inches; light gray (2.5Y 7/2) fine sandy loam: strata of sandy clay loam and loamy sand; common medium distinct yellowish red (5YR 5/6) and strong brown (7.5YR 5/6) mottles; massive; friable; few flakes of mica; very strongly acid.

The solum ranges from 45 to more than 60 inches in thickness. Few flakes of mica are in the lower part of the profile in most pedons.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 1 to 3. This horizon generally is loamy fine sand, but in some pedons, it is loamy sand.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 6. It has mottles in shades of brown or yellow. This horizon is loamy fine sand.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It has mottles in shades of red, yellow, brown, or gray. This horizon is sandy loam or sandy clay loam.

The BC horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 to 4. It has mottles in shades of red, yellow, or brown. This horizon is sandy loam or sandy clay loam. Some pedons have strata of white fine sand.

The C horizon has hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2. It has mottles in shades of yellow, brown, or red. This horizon is loamy sand, fine sandy loam, or sandy loam. Most pedons are stratified or have pockets of sandy or clayey material.

Yemassee Series

The Yemassee series consists of soils that formed in loamy marine sediment on nearly level terraces at an elevation of less than about 42 feet above sea level. Slopes are 0 to 2 percent. These soils are fine-loamy, siliceous, thermic Aeric Ochraquults.

Yemassee soils are associated on the landscape with Coosaw, Eulonia, Nakina, Ogeechee, Elloree, Wahee, and Yauhannah soils. Coosaw and Wahee soils are in positions similar to those of the Yemassee soils. Coosaw soils are in an arenic subgroup, and Wahee soils have a clayey particle-size control section. Eulonia and Yauhannah soils are higher on the landscape and are Udults. Eulonia soils have a clayey control section. Nakina, Ogeechee, and Elloree soils are lower on the landscape and have dominant matrix chroma of 2 or less throughout the profile. Nakina soils have an umbric epipedon. Elloree soils are in an arenic subgroup.

Typical pedon of Yemassee fine sandy loam; about 9 miles southeast of Summerville, about 2,300 feet northeast of the junction of South Carolina Highway 642 and Ashley Phosphate Road (South Carolina Highway 62), and 30 feet southeast of road near power pole number 34183.

A—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots and common large roots; very strongly acid; clear smooth boundary.

E1—6 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; few fine distinct light gray (10YR 7/2) mottles and common medium faint brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; common fine roots and few medium roots; common streaks of darker surface material in worm and root holes; strongly acid; clear wavy boundary.

E2—10 to 15 inches; light yellowish brown (10YR 6/4) fine sandy loam; common medium distinct brownish yellow (10YR 6/8) and light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; very few faint clay films on faces of peds; few medium and common fine roots; few fine pores; strongly acid; clear wavy boundary.

Btg1—15 to 32 inches; gray (10YR 6/1) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) mottles and few medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; few fine roots and pores; strongly acid; gradual wavy boundary.

Btg2—32 to 48 inches; gray (10YR 6/1) sandy clay loam; pockets of clay loam; common medium distinct strong brown (7.5YR 5/8) mottles and common medium prominent red (2.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; very few faint clay films on faces of peds; few fine roots; very strongly acid; gradual wavy boundary.

BCg—48 to 80 inches; light gray (5Y 7/2) sandy clay loam; strata of clay and sandy loam; few medium distinct strong brown (7.5YR 5/8), yellow (5Y 7/6), and gray (10YR 6/1) mottles; weak medium subangular blocky structure; firm; very strongly acid.

The solum ranges from 40 to more than 80 inches in thickness.

The A horizon has hue of 10YR, value of 2 to 5, and chroma of 1 or 2. It commonly is fine sandy loam but is loamy sand or loamy fine sand in some pedons.

The E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4. It has mottles in shades of yellow, brown, or gray. This horizon is loamy fine sand or fine sandy loam.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 1 to 4. It has mottles in shades of yellow, brown, or gray. This horizon is fine sandy loam or sandy clay loam.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, yellow, brown, or gray. This horizon is sandy clay loam. The lower part of this horizon has pockets of heavier textured material.

The BCg horizon has hue of 10YR or 5Y, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, yellow, brown, or gray. This horizon is clay or sandy clay loam, or it is stratified with variable textures.

Formation of the Soils

This section describes the factors of soil formation as they relate to the soils in the county and explains the processes of soil formation.

Factors of Soil Formation

Soil is a collection of natural bodies on the earth's surface. It contains living matter and supports or is capable of supporting plants. Soil is the product of five important factors of soil formation: parent material, climate, living organisms (plant and animals), relief, and time.

Climate and living organisms are the active factors in soil formation. Their effect on the parent material is modified by relief and by the length of time the parent material has been in place. The relative importance of each factor differs, however, from one place to another. In some places one factor dominates in the formation and determines most of the properties of the soil, but generally it is the interaction of all five factors that determines the kind of soil formed.

Although soil formation is complex, some understanding of the soil forming processes can be gained by considering each of the five factors separately. It should be remembered, however, that each of the five factors is affected by and also affects each of the other factors.

Parent Material

Parent material is the unconsolidated mass from which a soil forms. It determines the mineral and chemical composition of the soil. In Dorchester County, the parent material of most of the soils is marine or fluvial deposits. Most soils, including all of those within the county, have developed in material distinctly removed from their origin. These deposits differ widely in their content of sand, silt, and clay.

All of the soils in the county were deposited or formed during the Pleistocene, or glacial, epoch *(3)*. During this period, the ocean moved over the area, perhaps several times. As the ocean retreated, it left formations and terraces indicating former shorelines and soils of different ages. The terraces in Dorchester County, in sequence from the sea, are the Recent, Pamlico, Talbot, Penholoway, Wicomico, and Sunderland Terraces (fig. 10).

The Recent Terrace is at or near sea level and is flooded daily, or occasionally, by sea water. It shows little evidence of soil development. Capers and Handsboro soils formed in this material.

The Pamlico Terrace ranges from sea level to about 25 feet above sea level. This terrace makes up the lower part of the county south of an imaginary line from highway 17A to Old Dorchester State Park. The soils on this terrace are younger than most of the soils at the higher elevations. The clayey soils have mixed mineralogy. Among the clayey soils on this terrace are the Brookman, Eulonia, and Wahee soils. The loamy soils that have siliceous mineralogy include the Chisolm, Coosaw, Elloree, Mouzon, Ogeechee, Yauhannah, and Yemassee soils.

The Talbot Terrace ranges from 25 to 42 feet above sea level. This terrace occupies a small part of the county. It extends in a narrow band from south of Summerville west to the Edisto River. It also extends up through Great Cypress Swamp. The soils on this terrace generally are similar to those on the Pamlico Terrace.

The Penholoway Terrace ranges from 42 to 70 feet above sea level. It includes the areas around Summerville, Knightsville, and Jedburg, and the area from Ridgeville to Givhans. The soils on this terrace are older and more weathered and have dominantly siliceous or kaolinitic mineralogy. They include the Izagora, Jedburg, and Daleville soils.

The Wicomico Terrace ranges from about 70 to 100 feet above sea level. Like the other marine terraces, it parallels the shoreline and the Edisto River. Soils on this terrace are more highly developed than those on the lower terraces, and they have either siliceous or kaolinitic mineralogy. Some of the more common soils in this area include the Goldsboro, Lynchburg, Noboco, and Rains soils.

The Sunderland Terrace ranges from about 100 to 170 feet above sea level. In Dorchester County, most of this terrace is along the boundary with Orangeburg County southeast to the vicinity of St. George. The soils in this area are somewhat similar to those of the adjacent Wicomico Terrace.

Alluvial material consisting of sand, silt, and clay has been deposited on the flood plain of the Four Hole Swamp, Edisto and Ashley Rivers. These fairly young soils show limited evidence of soil development.

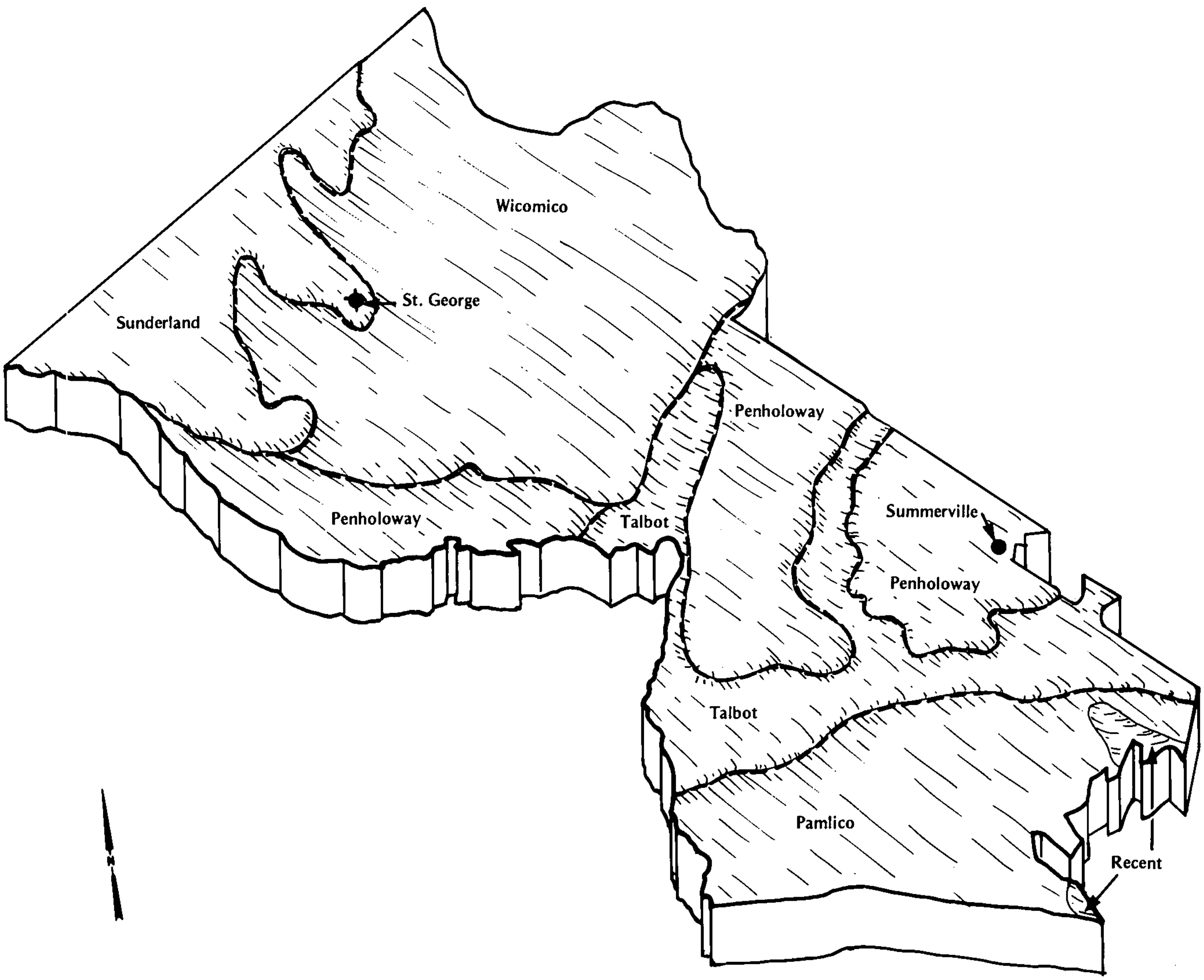


Figure 10.—The terraces in Dorchester County were formed as the ocean moved over the area. They indicate former shorelines.

Climate

The climate of Dorchester County has been important in the formation of soils. It is temperate, and rainfall is fairly well distributed throughout the year. The high rainfall, warm temperatures, and long frost-free growing season have had a marked effect on the characteristics of the soils that have developed in Dorchester County.

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. Water dissolves minerals, aids chemical and biological activity, and transports the dissolved mineral and organic material throughout the soil profile. Large amounts of rainwater promote leaching of the soluble bases and promote the translocation of the less soluble and fine textured soil material downward through the soil profile. The amount of water that percolates through the soil depends on the amount of rainfall, the length of the frost-free season, the relief, and the permeability of the soil material.

Weathering of the parent material is accelerated by moist conditions and warm temperature. The growth and activity of living organism is also increased by a warm, humid climate.

Living Organisms

The number and kinds of plants and animals that live in and on the soils are determined mainly by the climate and, to lesser extent, the parent material, relief, and age of the soil.

Bacteria, fungi, and other micro-organisms are indispensable in soil formation. They hasten the weathering of minerals and the decomposing of organic matter. Larger plants alter the soil microclimate, furnish organic matter, and transfer chemical elements from the subsoil to the surface layer.

Most of the fungi, bacteria, and other micro-organisms in the soils of the county are in the upper few inches of the soil. The activity of earthworms and other small invertebrates is chiefly in the A horizon and upper part of the B horizon. These organisms slowly but continuously mix the soil material. Bacteria and fungi decompose organic matter and release nutrients for plant use.

Animals play a secondary role in soil formation, but their influence is very great. By eating plants, they perform one step in returning plant material to the soil.

The native trees in the better drained areas of Dorchester County are mainly loblolly pine, longleaf pine, oak, and hickory. Sweetgum, blackgum, yellow poplar, maple, tupelo, ash, and cypress are in the wetter areas. Large trees affect soil formation by bringing nutrients up from varying depths and by providing large openings to be filled by material from above as large roots decay.

Relief

Relief, or lay of the land, influences soil formation because it affects moisture, vegetation, temperature, and erosion. A a result, several different soils may form from similar parent material.

Most of the soils in Dorchester County are nearly level and have shallow depressions and drainageways and low ridges with gentle slopes. Less than 1 percent of the county is flooded daily or occasionally by saline water. These flooded areas and some of the other soils in low areas show little development.

Time

The length of time required for a soil to develop depends largely on the intensity of the other soil-forming factors. The soils of Dorchester County range from immature, or young, to mature. In the higher areas of the uplands, most of the soils have well-developed horizons that are easily recognized. Where the parent material is very sandy or flooded, little horizonation has taken place. The alluvial soils deposited along streams frequently have not been in place long enough for distinct horizon development.

Morphology of the Soils

If a vertical cut is dug into a soil, several layers or horizons are evident. This differentiation of horizons is the result of many soil-forming processes. These include the accumulation of organic matter, the leaching of the accumulation of organic matter, the leaching of soluble salts, the reduction and translocation of iron, the formation of soil structure, the physical weathering caused by freezing and thawing, and the chemical weathering of primary minerals or rocks. Some of these processes are continually taking place in all soils, but the number of active processes and the degree of their activity vary from one soil to another.

Most soils have four major horizons: A, E, B, and C. These major horizons can be further subdivided by the use of subscripts and letters to indicate changes within one horizon. An example would be the Bt2 horizon, which is a layer within the B horizon that contains translocated clay from the E horizon.

The A horizon, or surface layer, has the largest accumulation of organic matter. If the soil has been cleared and plowed, this layer is called the Ap horizon. The Brookman and Pantego soils are examples of soils that have a distinctive, dark A or Ap horizon.

The E horizon, or subsurface layer, is the zone of maximum leaching, or eluviation, of clay and iron in the profile. Where considerable leaching has taken place, an E horizon is formed generally below the A horizon. Normally, the E horizon is the lightest colored horizon in the soil. It is well expressed in the Bonneau and Ocilla soils.

The B horizon, or subsoil, is below the A or E horizon. It is the horizon of maximum accumulation, or illuviation, of the clay, iron, aluminum, or other compounds that have been leached from the E horizon. Goldsboro, Izagora, and Wahee soils are examples of soils that have a well expressed B horizon. Some soils, such as the Chipley and Rutlege soils, have not formed a B horizon and the C horizon lies immediately under the A horizon. The C horizon is made up of material that has been little altered by the soil-forming processes but may be modified by weathering.

Well drained and moderately well drained soils in Dorchester County have a yellowish brown or reddish subsoil. These colors are mainly thin coatings of iron oxides on the sand, silt, and clay particles. A soil is considered well drained if it is free of gray mottles (those with a chroma of 2 or less) to a depth of at least 30 inches. The Noboco and Emporia soils are examples of the well drained soils. Moderately well drained soils are wet for short periods and are generally free of gray mottles to a depth of about 15 to 20 inches. The Goldsboro and Izagora soils are examples of moderately well drained soils.

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Glossary

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. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

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

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

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.

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 film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels, i.e., clay coating, clay skin.

Coarse textured soil. Sand or loamy sand.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

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. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

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.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

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.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

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 the activities of man or other animals or of a catastrophe in nature, such as fire, that exposes the surface.

Excess salts (in tables). Excess water-soluble salts in the soil restrict the growth of most plants.

Excess sulfur (in tables). An excessive amount of sulfur is in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

Fast intake (in tables). The movement of water into the soil is rapid.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fine textured soil. Sandy clay, silty clay, and clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

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 upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

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 O, A, or E horizon. The B horizon is, in part, a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as accumulation of clay, sesquioxides, humus, or a combination of these; prismatic or blocky structure; redder or browner colors than those in the A horizon; or a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

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 A or B horizon. 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, the Arabic numeral 2 precedes the letter C.

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-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

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. This contrasts with percolation, which is movement of water through soil layers or material.

Leaching. The removal of soluble material from soil or other material by percolating water.

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.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

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. An area that has little or no natural soil and supports little or no vegetation.

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. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

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.

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 downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water to move through the profile. Permeability is measured as the number of inches per hour that water moves through the saturated soil. Terms describing permeability are:

Very slow	less than 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

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Subsurface tunnels or pipelike cavities are formed by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poor outlets (in tables). In these areas, surface or subsurface drainage outlets are difficult or expensive to install.

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.

Reaction, soil. A measure of the acidity or alkalinity of a soil expressed in 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 degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly 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

Relief. The elevations or inequalities of a land surface, considered collectively.

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.

Salty water (in tables.) Water is too salty for consumption by livestock.

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.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Seepage (in tables). The movement of water through the soil adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shrink-swell. 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.

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.

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 feet.

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.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

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 over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
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 underlying material. The living roots and plant and animal activities are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in organic matter content than the overlying surface layer.

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."

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.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

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). An 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.

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, such as zinc, cobalt, manganese, copper, and iron, are in soils in extremely small amounts. They are essential to plant growth.

Unstable fill (in tables). There is a risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced by atmospheric agents in rocks or other deposits at or near the earth's surface. These changes result in disintegration and decomposition of the material.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Data recorded in the period 1951-81 at Summerville, South Carolina]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	57.9	34.4	46.2	79	14	111	3.36	1.68	4.81	7	.0
February---	60.7	36.3	48.5	81	17	105	3.51	1.79	5.01	7	.5
March------	67.9	43.2	55.6	87	24	220	4.24	2.04	6.14	7	.0
April------	76.4	51.1	63.8	91	32	414	2.78	.89	4.32	5	.0
May--------	82.9	59.5	71.2	96	41	657	4.40	2.50	6.07	7	.0
June-------	87.6	66.6	77.1	99	52	813	5.79	2.80	8.36	8	.0
July-------	89.9	70.1	80.0	99	59	930	6.73	3.58	9.50	10	.0
August-----	89.4	69.7	79.6	98	59	918	6.43	3.53	8.99	9	.0
September--	85.0	65.1	75.1	95	49	753	4.75	1.43	6.77	6	.0
October----	76.9	52.5	64.7	91	30	456	2.72	.91	4.21	4	.0
November---	68.6	42.4	55.5	84	22	188	2.13	1.00	3.10	4	.0
December---	60.4	35.7	48.1	80	15	101	3.19	1.77	4.43	6	.1
Yearly:											
Average--	75.3	52.2	63.8	---	---	---	---	---	---	---	---
Extreme--	---	---	---	101	13	---	---	---	---	---	---
Total----	---	---	---	---	---	5,666	50.03	40.98	58.65	80	.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 °F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Data recorded in the period 1951-81 at Summerville, South Carolina]

Probability	Temperature: 24 °F or lower	Temperature: 28 °F or lower	Temperature: 32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	March 12	April 1	April 16
2 years in 10 later than--	March 4	March 23	April 9
5 years in 10 later than--	February 17	March 7	March 27
First freezing temperature in fall:			
1 year in 10 earlier than--	November 16	November 1	October 24
2 years in 10 earlier than--	November 22	November 7	October 29
5 years in 10 earlier than--	December 3	November 17	November 7

TABLE 3.--GROWING SEASON

[Data recorded in the period 1951-81 at Summerville, South Carolina]

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	256	223	198
8 years in 10	267	234	207
5 years in 10	288	255	224
2 years in 10	309	275	241
1 year in 10	320	286	250

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AbA	Albany fine sand, 0 to 2 percent slopes	7,500	2.1
ApB	Alpin fine sand, 0 to 6 percent slopes	1,200	0.3
BlA	Blanton fine sand, 0 to 2 percent slopes	3,000	0.8
BlB	Blanton fine sand, 2 to 6 percent slopes	2,500	0.7
BoA	Bonneau fine sand, 0 to 2 percent slopes	6,700	1.8
BoB	Bonneau fine sand, 2 to 6 percent slopes	2,200	0.6
Br	Brookman clay loam, frequently flooded	20,500	5.6
Ca	Capers silty clay loam	1,100	0.3
ChA	Chipley sand, 0 to 2 percent slopes	8,000	2.2
CoB	Chisolm fine sand, 0 to 6 percent slopes	2,000	0.6
Cs	Coosaw loamy fine sand	6,000	1.6
Cx	Coxville loam	4,100	1.1
Da	Daleville silt loam	11,000	3.0
Ec	Echaw fine sand	5,100	1.4
Eo	Elloree loamy fine sand, occasionally flooded	3,800	1.0
EpB	Emporia loamy fine sand, 2 to 6 percent slopes	3,000	0.8
EuA	Eulonia fine sandy loam, 0 to 2 percent slopes	2,100	0.6
EuB	Eulonia fine sandy loam, 2 to 6 percent slopes	1,000	0.3
FoA	Foreston loamy fine sand, 0 to 2 percent slopes	1,500	0.4
FxB	Foxworth fine sand, 0 to 6 percent slopes	1,800	0.5
GoA	Goldsboro loamy sand, 0 to 2 percent slopes	31,400	8.6
Gr	Grifton fine sandy loam, frequently flooded	24,200	6.7
Hb	Handsboro muck	200	0.1
Hp	Haplaquents, loamy	2,300	0.6
IzA	Izagora silt loam, 0 to 2 percent slopes	8,700	2.4
IzB	Izagora silt loam, 2 to 6 percent slopes	200	0.1
Jd	Jedburg loam	15,300	4.2
JoA	Johns loamy sand, 0 to 2 percent slopes	1,700	0.5
Le	Leon sand	2,300	0.6
Lm	Lumbee fine sandy loam, occasionally flooded	4,500	1.2
Ln	Lynchburg loamy sand	23,300	6.5
Ly	Lynn Haven fine sand	1,000	0.3
Mo	Mouzon fine sandy loam, occasionally flooded	45,800	12.6
Na	Nakina fine sandy loam	2,500	0.7
NoA	Noboco loamy sand, 0 to 2 percent slopes	15,400	4.2
OcA	Ocilla sand, 0 to 2 percent slopes	6,400	1.8
Og	Ogeechee fine sandy loam	7,000	1.9
Os	Osier loamy fine sand, frequently flooded	11,600	3.2
Pa	Pantego sandy loam	5,600	1.5
Pe	Pelham sand	7,300	2.0
Pm	Plummer loamy sand	2,200	0.6
Ra	Rains sandy loam	23,400	6.5
Ru	Rutlege loamy fine sand, frequently flooded	4,100	1.1
Se	Seagate sand	1,500	0.4
Wa	Wahee fine sandy loam	8,700	2.4
YaA	Yauhannah loamy fine sand, 0 to 2 percent slopes	3,400	0.9
Ye	Yemassee fine sandy loam	7,400	2.0
	Water	2,500	0.7
	Total	364,000	100.0

TABLE 5.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. 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	Soybeans	Tobacco	Wheat	Oats	Bahiagrass	Improved bermuda-grass
		Bu	Bu	Lbs	Bu	Bu	AUM*	AUM*
AbA------------- Albany	IIIw	65	25	2,100	---	---	6.5	7.0
ApB------------- Alpin	IVs	---	---	---	---	---	7.0	8.0
BlA, BlB-------- Blanton	IIIs	60	25	2,000	---	---	6.5	8.0
BoA, BoB-------- Bonneau	IIs	85	25	2,600	---	---	8.0	8.5
Br-------------- Brookman	VIw	---	---	---	---	---	---	---
Ca-------------- Capers	VIIIw	---	---	---	---	---	---	---
ChA------------- Chipley	IIIs	50	20	2,000	---	---	7.5	8.0
CoB------------- Chisolm	IIs	85	25	---	---	50	8.0	10.0
Cs-------------- Coosaw	IIIw	90	30	---	---	60	8.0	10.0
Cx-------------- Coxville	IIIw	100	35	---	50	70	8.0	8.0
Da-------------- Daleville	IIIw	100	35	---	---	---	8.0	8.0
Ec-------------- Echaw	IIIs	70	30	---	---	---	7.5	7.5
Eo-------------- Elloree	VIw	---	---	---	---	---	7.5	7.5
EpB------------- Emporia	IIe	100	35	2,900	50	---	9.0	9.0
EuA------------- Eulonia	IIw	100	40	---	---	75	9.5	9.5
EuB------------- Eulonia	IIe	90	35	---	---	70	9.0	10.0
FoA------------- Foreston	IIw	100	35	---	---	---	9.0	9.0
FxB------------- Foxworth	IIIs	45	20	---	---	---	7.5	7.0
GoA------------- Goldsboro	IIw	125	45	3,000	60	---	9.0	9.0

See footnote at end of table.

TABLE 5.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat	Oats	Bahiagrass	Improved bermuda-grass
		Bu	Bu	Lbs	Bu	Bu	AUM*	AUM*
Gr: Grifton	VIw	---	---	---	---	---	---	---
Hb: Handsboro	VIIIw	---	---	---	---	---	---	---
Hp: Haplaquents	VIw	---	---	---	---	---	---	---
IzA: Izagora	IIw	110	45	---	---	---	9.0	9.0
IzB: Izagora	IIe	90	30	---	---	---	8.0	9.0
Jd: Jedburg	IIw	100	50	2,800	30	---	10.0	---
JoA: Johns	IIw	110	40	2,700	50	---	9.0	9.0
Le: Leon	IVw	50	---	---	---	---	7.5	7.0
Lm: Lumbee	VIw	---	---	---	---	---	8.0	8.0
Ln: Lynchburg	IIw	115	45	2,800	---	75	10.0	---
Ly: Lynn Haven	IVw	---	---	---	---	---	7.5	---
Mo: Mouzon	VIw	---	---	---	---	---	---	---
Na: Nakina	VIw	---	---	---	---	---	---	---
NoA: Noboco	I	115	45	3,000	60	---	9.0	9.0
OcA: Ocilla	IIIw	75	30	2,600	---	---	7.5	8.5
Og: Ogeechee	IIIw	100	45	---	---	---	9.0	---
Os: Osier	Vw	---	---	---	---	---	---	---
Pa: Pantego	VIw	---	---	---	---	---	---	---
Pe: Pelham	IIIw	75	30	---	---	---	7.0	7.0
Pm: Plummer	Vw	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 5.--LAND CAPABILITY CLASSES AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tobacco	Wheat	Oats	Bahiagrass	Improved bermuda-grass
		Bu	Bu	Lbs	Bu	Bu	AUM*	AUM*
Ra-------------- Rains	IIIw	110	40	2,300	---	70	10.0	---
Ru-------------- Rutlege	VIw	---	---	---	---	---	---	---
Se-------------- Seagate	IIIw	75	25	1,800	---	---	8.0	8.0
Wa-------------- Wahee	IIw	110	45	---	---	70	8.0	8.5
YaA------------- Yauhannah	IIw	125	45	---	---	---	9.0	11
Ye-------------- Yemassee	IIw	120	45	---	---	---	11.0	12

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats for 30 days.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

(Miscellaneous areas are excluded. Absence of an entry indicates no acreage)

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I	15,400	---	---	---
II	118,600	4,200	103,500	10,900
III	94,600	---	74,200	20,400
IV	4,500	---	3,300	1,200
V	13,800	---	13,800	---
VI	113,300	---	113,300	---
VII	---	---	---	---
VIII	1,300	---	1,300	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Map symbol and soil name	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
AbA------------- Albany	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	95	129	Loblolly pine.
					Longleaf pine-------	80	100	
ApB------------- Alpin	Slight	Moderate	Moderate	Slight	Loblolly pine-------	85	114	Loblolly pine, longleaf pine.
					Longleaf pine-------	70	86	
					Turkey oak----------	---	---	
					Post oak------------	---	---	
					Blackjack oak-------	---	---	
					Bluejack oak--------	---	---	
BlA, BlB--------- Blanton	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	80	114	Loblolly pine, longleaf pine.
					Longleaf pine-------	70	86	
					Bluejack oak--------	---	---	
					Turkey oak----------	---	---	
					Southern red oak----	---	---	
					Live oak------------	---	---	
BoA, BoB--------- Bonneau	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	86	129	Loblolly pine, longleaf pine.
					Longleaf pine-------	75	86	
					White oak-----------	---	---	
					Hickory-------------	---	---	
Br--------------- Brookman	Slight	Severe	Severe	Severe	Swamp tupelo--------	55	71	Sweetgum, water tupelo.
ChA-------------- Chipley	Slight	Moderate	Slight	Moderate	Loblolly pine-------	90	129	Loblolly pine.
					Longleaf pine-------	80	100	
					Post oak------------	---	---	
					Turkey oak----------	---	---	
					Blackjack oak-------	---	---	
CoB-------------- Chisolm	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	90	129	Longleaf pine.
					Longleaf pine-------	78	100	
					Southern red oak----	---	---	
					Hickory-------------	---	---	
Cs--------------- Coosaw	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	79	114	Loblolly pine.
					Longleaf pine-------	68	71	
					Water oak-----------	---	---	
					Blackgum------------	---	---	
Cx--------------- Coxville	Slight	Severe	Moderate	Severe	Loblolly pine-------	90	129	Loblolly pine.
					Longleaf pine-------	---	---	
					Sweetgum------------	---	---	
					Blackgum------------	---	---	
					Water oak-----------	---	---	
					Willow oak----------	---	---	
					Water tupelo--------	---	---	
					Elm-----------------	---	---	
					Hickory-------------	---	---	
Da--------------- Daleville	Slight	Severe	Severe	Moderate	Loblolly pine-------	95	129	Loblolly pine, sweetgum.
					Sweetgum------------	90	100	
					Water oak-----------	85	---	
					Willow oak----------	80	---	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Management concerns				Potential productivity			Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Productivity class*	
Ec---------------- Echaw	Slight	Moderate	Slight	Moderate	Longleaf pine------- Loblolly pine-------	68 85	71 114	Longleaf pine, loblolly pine.
Eo---------------- Elloree	Slight	Severe	Severe	Severe	Loblolly pine------- Sweetgum------------ Yellow poplar------- Red maple----------- Water oak-----------	90 --- --- --- ---	129 --- --- --- ---	Loblolly pine, sweetgum, yellow poplar.
EpB--------------- Emporia	Slight	Slight	Moderate	Moderate	Loblolly pine------- Southern red oak----	75 70	100 57	Loblolly pine, sweetgum.
EuA, EuB---------- Eulonia	Slight	Moderate	Moderate	Moderate	Loblolly pine------- Water oak----------- Sweetgum------------ Blackgum------------ Southern red oak---- Longleaf pine------- Hickory-------------	90 90 90 --- --- 85 ---	129 --- 100 --- --- 114 ---	Loblolly pine, American sycamore, sweetgum, yellow poplar.
FoA--------------- Foreston	Slight	Moderate	Slight	Moderate	Loblolly pine------- Longleaf pine-------	90 75	129 86	Loblolly pine.
FxB--------------- Foxworth	Slight	Moderate	Moderate	Moderate	Longleaf pine------- Turkey oak---------- Live oak------------ Post oak------------ Bluejack oak-------- Flowering dogwood---	65 --- --- --- --- ---	71 --- --- --- --- ---	Longleaf pine.
GoA--------------- Goldsboro	Slight	Moderate	Slight	Moderate	Loblolly pine------- Longleaf pine------- Sweetgum------------ Southern red oak---- White oak----------- Water oak----------- Red maple-----------	90 77 90 --- --- --- ---	129 100 100 --- --- --- ---	Loblolly pine, yellow poplar, American sycamore, sweetgum.
Gr---------------- Grifton	Slight	Severe	Severe	Severe	Loblolly pine-------	89	129	Loblolly pine, sweetgum, water tupelo, American sycamore, water oak.
IzA, IzB---------- Izagora	Slight	Moderate	Slight	Moderate	Loblolly pine------- Sweetgum------------ Yellow poplar------- Water oak-----------	90 90 100 90	129 100 114 ---	Loblolly pine, sweetgum, yellow poplar, water oak.
Jd---------------- Jedburg	Slight	Severe	Slight	Severe	Loblolly pine------- Sweetgum------------	90 ---	129 ---	Loblolly pine.
JoA--------------- Johns	Slight	Moderate	Slight	Moderate	Loblolly pine------- Sweetgum------------	86 90	129 100	Loblolly pine.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Management concerns				Potential productivity			Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Productivity class*	
Le: Leon	Slight	Moderate	Moderate	Moderate	Longleaf pine	65	71	Loblolly pine.
Lm: Lumbee	Slight	Severe	Severe	Severe	Loblolly pine	94	129	Loblolly pine, water tupelo, sweetgum.
					Pond pine	---	---	
					Water tupelo	---	---	
					Sweetgum	---	---	
					White oak	---	---	
Ln: Lynchburg	Slight	Moderate	Slight	Severe	Loblolly pine	86	129	Loblolly pine American sycamore, sweetgum.
					Longleaf pine	74	86	
					Yellow poplar	92	86	
					Sweetgum	90	100	
					Southern red oak	---	---	
					White oak	---	---	
					Blackgum	---	---	
Ly: Lynn Haven	Slight	Moderate	Moderate	Moderate	Loblolly pine	80	114	Loblolly pine.
					Longleaf pine	70	86	
					Pond pine	70	---	
Mo: Mouzon	Slight	Severe	Severe	Severe	Sweetgum	100	143	Sweetgum.
					Baldcypress	---	---	
					Swamp tupelo	---	---	
Na: Nakina	Slight	Severe	Severe	Severe	Sweetgum	90	100	Sweetgum.
					Water oak	---	---	
NoA: Noboco	Slight	Slight	Slight	Moderate	Loblolly pine	90	129	Loblolly pine, American sycamore, sweetgum.
					Longleaf pine	80	100	
					Southern red oak	---	---	
					Sweetgum	---	---	
OcA: Ocilla	Slight	Moderate	Moderate	Moderate	Loblolly pine	85	114	Loblolly pine.
					Longleaf pine	77	100	
Og: Ogeechee	Slight	Severe	Moderate	Moderate	Loblolly pine	90	129	Loblolly pine, sweetgum.
					Pond pine	70	---	
Os: Osier	Slight	Severe	Severe	Severe	Sweetgum	90	100	Sweetgum, water oak.
					Water tupelo	---	---	
					Baldcypress	---	---	
Pa: Pantego	Slight	Severe	Severe	Severe	Loblolly pine	98	129	Loblolly pine, sweetgum, American sycamore, water tupelo.
					Pond pine	73	---	
					Baldcypress	---	---	
					Water tupelo	---	---	
					Water oak	---	---	
Pe: Pelham	Slight	Severe	Severe	Severe	Loblolly pine	90	129	Loblolly pine.
					Longleaf pine	80	100	
					Sweetgum	80	86	
					Blackgum	80	114	
					Water oak	80	---	
Pm: Plummer	Slight	Severe	Severe	Severe	Pond pine	60	39	
					Baldcypress	---	---	
					Swamp tupelo	---	---	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Map symbol and soil name	Management concerns				Potential productivity			Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Productivity class*	
Ra----------------Rains	Slight	Severe	Severe	Severe	Loblolly pine-------	94	129	Loblolly pine, sweetgum, American sycamore.
					Sweetgum------------	90	100	
Ru----------------Rutlege	Slight	Severe	Severe	Severe	Sweetgum------------	90	100	Sweetgum, baldcypress.
					Pin oak-------------	85	57	
Se----------------Seagate	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	80	114	Loblolly pine.
					Longleaf pine-------	70	86	
Wa----------------Wahee	Slight	Moderate	Moderate	Severe	Loblolly pine-------	86	129	Loblolly pine, sweetgum, American sycamore, water oak.
					Sweetgum------------	90	100	
					Blackgum------------	---	---	
					Water oak-----------	---	---	
					Swamp chestnut oak--	---	---	
					Willow oak----------	---	---	
					Southern red oak----	---	---	
YaA---------------Yauhannah	Slight	Moderate	Slight	Moderate	Loblolly pine-------	90	129	Loblolly pine, yellow poplar, sweetgum, American sycamore.
					Sweetgum------------	90	100	
					Southern red oak----	80	57	
					White oak-----------	80	57	
					Yellow poplar-------	100	114	
					Longleaf pine-------	80	100	
Ye----------------Yemassee	Slight	Moderate	Slight	Severe	Loblolly pine-------	90	129	Loblolly pine. American sycamore, yellow poplar.
					Sweetgum------------	95	114	
					Southern red oak----	---	---	
					White oak-----------	---	---	
					Yellow poplar-------	100	114	
					Longleaf pine-------	80	100	
					Blackgum------------	---	---	
					Hickory-------------	---	---	

* Productivity class is the yield in cubic feet per acre per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

TABLE 8.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AbA------------------- Albany	Severe: wetness.	Severe: too sandy.	Severe: too sandy, wetness.	Severe: too sandy.	Severe: droughty.
ApB------------------- Alpin	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
BlA------------------- Blanton	Severe: too sandy.	Severe: too sandy.	Slight----------	Severe: too sandy.	Severe: droughty.
BlB------------------- Blanton	Severe: too sandy.	Severe: too sandy.	Moderate: slope.	Severe: too sandy.	Severe: droughty.
BoA, BoB-------------- Bonneau	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
Br-------------------- Brookman	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Ca-------------------- Capers	Severe: flooding, ponding, percs slowly.	Severe: ponding, excess salt.	Severe: ponding, flooding.	Severe: ponding.	Severe: excess salt, excess sulfur, ponding.
ChA------------------- Chipley	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
CoB------------------- Chisolm	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
Cs-------------------- Coosaw	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Slight----------	Moderate: droughty.
Cx-------------------- Coxville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Da-------------------- Daleville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ec-------------------- Echaw	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
Eo-------------------- Elloree	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
EpB------------------- Emporia	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones, percs slowly.	Slight----------	Moderate: droughty.
EuA------------------- Eulonia	Moderate: percs slowly, wetness.	Moderate: wetness, percs slowly.	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: wetness.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
EuB----------------- Eulonia	Moderate: percs slowly, wetness.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
FoA----------------- Foreston	Slight-----------	Slight-----------	Slight-----------	Slight-----------	Moderate: droughty.
FxB----------------- Foxworth	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
GoA----------------- Goldsboro	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Slight-----------	Slight.
Gr------------------ Grifton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Hb------------------ Handsboro	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus, excess salt.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: excess salt, excess sulfur, ponding.
Hp. Haplaquents					
IzA----------------- Izagora	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: erodes easily.	Slight.
IzB----------------- Izagora	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Severe: erodes easily.	Slight.
Jd------------------ Jedburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
JoA----------------- Johns	Severe: flooding.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Le------------------ Leon	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Lm------------------ Lumbee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ln------------------ Lynchburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ly------------------ Lynn Haven	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Mo------------------ Mouzon	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Na: Nakina	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
NoA: Noboco	Slight	Slight	Slight	Slight	Moderate: droughty.
OcA: Ocilla	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, droughty, too sandy.
Og: Ogeechee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Os: Osier	Severe: wetness, ponding.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
Pa: Pantego	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pe: Pelham	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Pm: Plummer	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
Ra: Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ru: Rutlege	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, droughty, flooding.
Se: Seagate	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Wa: Wahee	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
YaA: Yauhannah	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Ye: Yemassee	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.

TABLE 9.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AbA-----Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
ApB-----Alpin	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
BlA, BlB-----Blanton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
BoA, BoB-----Bonneau	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Br-----Brookman	Very poor.	Poor	Fair	Poor	Poor	Good	Good	Poor	Fair	Good.
Ca-----Capers	---	---	---	---	---	Good	Good	---	---	Good.
ChA-----Chipley	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CoB-----Chisolm	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cs-----Coosaw	Poor	Fair	Good	Poor	Good	Poor	Poor	Fair	Good	Poor.
Cx-----Coxville	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor.
Da-----Daleville	Poor	Fair	Fair	Good	Fair	Good	Good	Fair	Good	Good.
Ec-----Echaw	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Eo-----Elloree	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
EpB-----Emporia	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
EuA, EuB-----Eulonia	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
FoA-----Foreston	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
FxB-----Foxworth	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
GoA-----Goldsboro	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Gr-----Grifton	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.

TABLE 9.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Hb: Handsboro	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Poor.
Hp. Haplaquents										
IzA: Izagora	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
IzB: Izagora	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Jd: Jedburg	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
JoA: Johns	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Le: Leon	Poor	Fair	Good	Poor	Fair	Fair	Poor	Fair	Fair	Poor.
Lm: Lumbee	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Ln: Lynchburg	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Ly: Lynn Haven	Poor	Fair	Fair	Poor	Poor	Fair	Fair	Fair	Poor	Fair.
Mo: Mouzon	Very poor.	Very poor.	Very poor.	Fair	Fair	Good	Good	Very poor.	Poor	Good.
Na: Nakina	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
NoA: Noboco	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OcA: Ocilla	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
Og: Ogeechee	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Os: Osier	Very poor.	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
Pa: Pantego	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair.
Pe: Pelham	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Pm: Plummer	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Ra: Rains	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.

TABLE 9.--WILDLIFE HABITAT--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Ru------------------ Rutlege	Very poor.	Poor	Poor	Poor	Poor	Fair	Good	Poor	Poor	Fair.
Se------------------ Seagate	Poor	Poor	Fair	Poor	Poor	Poor	Poor	Poor	Poor	Poor.
Wa------------------ Wahee	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
YaA----------------- Yauhannah	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Ye------------------ Yemassee	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

TABLE 10.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition; it does not eliminate the need for onsite investigation]

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AbA----------------- Albany	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: droughty.
ApB----------------- Alpin	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
BlA----------------- Blanton	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Severe: droughty.
BlB----------------- Blanton	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Moderate: slope.	Slight---------	Severe: droughty.
BoA----------------- Bonneau	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Moderate: droughty.
BoB----------------- Bonneau	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Moderate: slope.	Slight---------	Moderate: droughty.
Br------------------ Brookman	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, low strength.	Severe: wetness, flooding.
Ca------------------ Capers	Severe: ponding.	Severe: flooding, ponding, shrink-swell.	Severe: flooding, ponding, shrink-swell.	Severe: flooding, ponding, shrink-swell.	Severe: low strength, ponding, flooding.	Severe: excess salt, excess sulfur, ponding.
ChA----------------- Chipley	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
CoB----------------- Chisolm	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Moderate: droughty.
Cs------------------ Coosaw	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
Cx------------------ Coxville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.	Severe: wetness.
Da------------------ Daleville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.	Severe: wetness.
Ec------------------ Echaw	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Moderate: droughty.
Eo------------------ Elloree	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
EpB: Emporia	Moderate: wetness.	Slight	Moderate: wetness, shrink-swell.	Moderate: slope.	Moderate: low strength.	Moderate: droughty.
EuA: Eulonia	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Moderate: wetness.
EuB: Eulonia	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: low strength, wetness.	Moderate: wetness.
FoA: Foreston	Severe: cutbanks cave.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
FxB: Foxworth	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty, too sandy.
GoA: Goldsboro	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Slight.
Gr: Grifton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.
Hb: Handsboro	Severe: excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: ponding, flooding.	Severe: excess salt, excess sulfur, ponding.
Hp. Haplaquents						
IzA: Izagora	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: low strength.	Slight.
IzB: Izagora	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: low strength.	Slight.
Jd: Jedburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
JoA: Johns	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Moderate: wetness, droughty.
Le: Leon	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
Lm: Lumbee	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
Ln: Lynchburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ly: Lynn Haven	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Mo: Mouzon	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: wetness, flooding.	Severe: wetness, flooding.
Na: Nakina	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
NoA: Noboco	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
OcA: Ocilla	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty, too sandy.
Og: Ogeechee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Os: Osier	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, droughty.
Pa: Pantego	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pe: Pelham	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Pm: Plummer	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Ra: Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ru: Rutlege	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty, flooding.
Se: Seagate	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Wa: Wahee	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength, wetness.	Severe: wetness.
YaA: Yauhannah	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Ye: Yemassee	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.

TABLE 11.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition; it does not eliminate the need for onsite investigation]

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AbA: Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
ApB: Alpin	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
BlA, BlB: Blanton	Moderate: wetness.	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.
BoA, BoB: Bonneau	Severe: wetness.	Severe: seepage.	Severe: wetness.	Severe: seepage.	Good.
Br: Brookman	Severe: flooding, wetness, percs slowly.	Slight	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
Ca: Capers	Severe: flooding, ponding, percs slowly.	Severe: flooding, ponding.	Severe: flooding, ponding, too clayey.	Severe: flooding, ponding.	Poor: too clayey, hard to pack, ponding.
ChA: Chipley	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, seepage.
CoB: Chisolm	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Good.
Cs: Coosaw	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, seepage.	Severe: seepage, wetness.	Fair: wetness, thin layer.
Cx: Coxville	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: wetness.
Da: Daleville	Severe: wetness, percs slowly.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness.
Ec: Echaw	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy.
Eo: Elloree	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: seepage, flooding, wetness.	Poor: wetness.

TABLE 11.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
EpB----------------- Emporia	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Moderate: wetness, too clayey.	Slight-----------	Fair: too clayey, wetness.
EuA, EuB----------- Eulonia	Severe: percs slowly, wetness.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey.
FoA----------------- Foreston	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: thin layer.
FxB----------------- Foxworth	Moderate: wetness, poor filter.	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
GoA----------------- Goldsboro	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Gr------------------ Grifton	Severe: wetness, flooding.	Severe: wetness, seepage, flooding.	Severe: flooding, wetness.	Severe: wetness, flooding, seepage.	Poor: wetness.
Hb------------------ Handsboro	Severe: flooding, ponding.	Severe: flooding, excess humus, ponding.	Severe: flooding, ponding, excess humus.	Severe: flooding, ponding.	Poor: ponding, excess humus, excess salt.
Hp. Haplaquents					
IzA, IzB----------- Izagora	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: too clayey, wetness, thin layer.
Jd------------------ Jedburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
JoA----------------- Johns	Severe: wetness.	Severe: seepage, flooding, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Le------------------ Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Lm------------------ Lumbee	Severe: wetness.	Severe: seepage, flooding, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness.
Ln------------------ Lynchburg	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.

TABLE 11.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Ly----------------- Lynn Haven	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Mo----------------- Mouzon	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Na----------------- Nakina	Severe: wetness.	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness, thin layer.
NoA---------------- Noboco	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey, wetness.
OcA---------------- Ocilla	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: wetness.
Og----------------- Ogeechee	Severe: wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Os----------------- Osier	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Pa----------------- Pantego	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
Pe----------------- Pelham	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness, seepage.	Poor: wetness.
Pm----------------- Plummer	Severe: ponding, poor filter.	Severe: ponding, seepage.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Ra----------------- Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, seepage.	Poor: wetness.
Ru----------------- Rutlege	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Se----------------- Seagate	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: wetness, too clayey.
Wa----------------- Wahee	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.

TABLE 11.--SANITARY FACILITIES--Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
YaA----------------- Yauhannah	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: wetness.	Fair: wetness.
Ye------------------ Yemassee	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.

TABLE 12.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition; it does not eliminate the need for onsite investigation]

Map symbol and soil name	Roadfill	Sand	Topsoil
AbA-------------------- Albany	Fair: wetness.	Improbable: thin layer.	Poor: too sandy.
ApB-------------------- Alpin	Good------------------------	Probable--------------------	Poor: too sandy.
BlA, BlB--------------- Blanton	Good------------------------	Probable--------------------	Poor: too sandy.
BoA, BoB--------------- Bonneau	Good------------------------	Improbable: excess fines.	Poor: too sandy.
Br--------------------- Brookman	Poor: low strength, wetness.	Improbable: excess fines.	Poor: too clayey, wetness.
Ca--------------------- Capers	Poor: low strength, wetness, shrink-swell.	Improbable: excess fines.	Poor: too clayey, excess salt, wetness.
ChA-------------------- Chipley	Fair: wetness.	Probable--------------------	Poor: too sandy.
CoB-------------------- Chisolm	Good------------------------	Probable--------------------	Poor: too sandy.
Cs--------------------- Coosaw	Fair: wetness.	Probable--------------------	Fair: too sandy.
Cx--------------------- Coxville	Poor: wetness, low strength.	Improbable: excess fines.	Poor: thin layer, wetness.
Da--------------------- Daleville	Poor: low strength, wetness.	Improbable: excess fines.	Poor: wetness.
Ec--------------------- Echaw	Fair: wetness.	Probable--------------------	Poor: too sandy.
Eo--------------------- Elloree	Poor: wetness.	Improbable: excess fines.	Poor: thin layer, wetness.
EpB-------------------- Emporia	Fair: shrink-swell.	Improbable: excess fines.	Fair: too sandy, small stones.
EuA, EuB--------------- Eulonia	Fair: wetness.	Improbable: excess fines.	Poor: thin layer.
FoA-------------------- Foreston	Fair: wetness.	Improbable: excess fines.	Fair: too sandy.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Topsoil
FxB------------------- Foxworth	Good	Probable	Poor: too sandy.
GoA------------------- Goldsboro	Fair: wetness.	Improbable: excess fines.	Fair: too sandy.
Gr-------------------- Grifton	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Hb-------------------- Handsboro	Poor: wetness.	Improbable: excess fines.	Poor: excess humus, excess salt, wetness.
Hp. Haplaquents			
IzA, IzB-------------- Izagora	Poor: low strength.	Improbable: excess fines.	Good.
Jd-------------------- Jedburg	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
JoA------------------- Johns	Fair: wetness.	Probable	Fair: too sandy, thin layer.
Le-------------------- Leon	Poor: wetness.	Probable	Poor: too sandy, wetness.
Lm-------------------- Lumbee	Poor: wetness.	Probable	Poor: wetness.
Ln-------------------- Lynchburg	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Ly-------------------- Lynn Haven	Poor: wetness.	Probable	Poor: too sandy, wetness.
Mo-------------------- Mouzon	Poor: wetness.	Improbable: excess fines.	Poor: thin layer, wetness.
Na-------------------- Nakina	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
NoA------------------- Noboco	Fair: wetness.	Improbable: excess fines.	Fair: too clayey.
OcA------------------- Ocilla	Fair: wetness.	Improbable: excess fines.	Poor: too sandy.
Og-------------------- Ogeechee	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Os-------------------- Osier	Poor: wetness.	Probable	Poor: wetness.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Roadfill	Sand	Topsoil
Pa: Pantego	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Pe: Pelham	Poor: wetness.	Improbable: excess fines.	Poor: too sandy, wetness.
Pm: Plummer	Poor: wetness.	Probable	Poor: too sandy, wetness.
Ra: Rains	Poor: wetness.	Improbable: excess fines.	Poor: wetness.
Ru: Rutlege	Poor: wetness.	Probable	Poor: wetness.
Se: Seagate	Fair: wetness.	Improbable: excess fines.	Poor: too sandy.
Wa: Wahee	Poor: low strength, wetness.	Improbable: excess fines.	Poor: thin layer, wetness.
YaA: Yauhannah	Fair: wetness.	Probable	Fair: too sandy.
Ye: Yemassee	Fair: wetness.	Improbable: excess fines.	Poor: thin layer.

TABLE 13.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition; it does not eliminate the need for onsite investigation]

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Grassed waterways
AbA: Albany	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, droughty.
ApB: Alpin	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, soil blowing.	Droughty.
BlA, BlB: Blanton	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake, soil blowing.	Droughty.
BoA, BoB: Bonneau	Severe: seepage.	Severe: thin layer.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake, soil blowing.	Droughty.
Br: Brookman	Moderate: seepage.	Severe: hard to pack, wetness.	Moderate: slow refill.	Flooding	Flooding, wetness, percs slowly.	Wetness.
Ca: Capers	Slight	Severe: hard to pack, ponding, excess salt.	Severe: slow refill, salty water.	Ponding, percs slowly, flooding.	Ponding, flooding, excess salt.	Wetness, excess salt, percs slowly.
ChA: Chipley	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Droughty.
CoB: Chisolm	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake, slope.	Droughty.
Cs: Coosaw	Severe: seepage.	Severe: piping.	Severe: cutbanks cave.	Favorable	Wetness, droughty, fast intake.	Droughty.
Cx: Coxville	Slight	Severe: wetness.	Severe: slow refill.	Favorable	Wetness	Wetness.
Da: Daleville	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Wetness, erodes easily, percs slowly.
Ec: Echaw	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Droughty.
Eo: Elloree	Severe: seepage.	Severe: wetness, seepage, piping.	Severe: cutbanks cave.	Flooding	Wetness, fast intake, droughty.	Wetness, droughty.

TABLE 13.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Grassed waterways
EpB: Emporia	Moderate: seepage, slope.	Moderate: thin layer, piping.	Severe: no water.	Deep to water	Fast intake, soil blowing, slope.	Droughty, percs slowly.
EuA: Eulonia	Moderate: seepage.	Moderate: wetness.	Moderate: deep to water.	Favorable	Wetness	Favorable.
EuB: Eulonia	Moderate: seepage.	Moderate: wetness.	Moderate: deep to water.	Slope	Wetness, soil blowing, slope.	Favorable.
FoA: Foreston	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Favorable	Wetness, droughty, fast intake.	Droughty.
FxB: Foxworth	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake, soil blowing.	Droughty.
GoA: Goldsboro	Moderate: seepage.	Moderate: piping, wetness.	Moderate: slow refill, cutbanks cave.	Favorable	Wetness, fast intake.	Favorable.
Gr: Grifton	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Flooding	Wetness, flooding.	Wetness.
Hb: Handsboro	Slight	Severe: excess humus, ponding, excess salt.	Severe: salty water.	Ponding, flooding, excess salt.	Ponding, flooding, excess salt.	Wetness, excess salt.
Hp: Haplaquents	Slight	Severe: wetness, piping.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Wetness, percs slowly.
IzA: Izagora	Moderate: seepage.	Moderate: piping, wetness.	Severe: slow refill.	Favorable	Wetness, percs slowly.	Erodes easily.
IzB: Izagora	Moderate: seepage, slope.	Moderate: piping, wetness.	Severe: slow refill.	Slope	Wetness, percs slowly, slope.	Erodes easily.
Jd: Jedburg	Slight	Severe: wetness.	Severe: slow refill.	Favorable	Wetness, soil blowing.	Wetness.
JoA: Johns	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Droughty.
Le: Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, droughty.
Lm: Lumbee	Severe: seepage.	Severe: wetness.	Slight	Cutbanks cave	Wetness	Wetness.

TABLE 13.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Limitations for-- Aquifer-fed excavated ponds	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Grassed waterways
Ln----------------- Lynchburg	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Favorable------	Wetness, fast intake.	Wetness.
Ly----------------- Lynn Haven	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, droughty.
Mo----------------- Mouzon	Moderate: seepage.	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly, flooding.	Wetness, percs slowly.	Wetness. percs slowly.
Na----------------- Nakina	Severe: seepage.	Severe: wetness.	Slight---------	Favorable------	Wetness---------	Wetness.
NoA---------------- Noboco	Moderate: seepage.	Moderate: piping, wetness.	Severe: slow refill, cutbanks cave.	Favorable------	Wetness, droughty.	Droughty, rooting depth.
OcA---------------- Ocilla	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable------	Wetness, droughty, fast intake.	Droughty.
Og----------------- Ogeechee	Moderate: seepage.	Severe: wetness.	Favorable------	Favorable------	Wetness---------	Wetness.
Os----------------- Osier	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, droughty.
Pa----------------- Pantego	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Favorable------	Wetness---------	Wetness.
Pe----------------- Pelham	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable------	Fast intake, wetness.	Wetness.
Pm----------------- Plummer	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, cutbanks cave.	Wetness, droughty.
Ra----------------- Rains	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Favorable------	Wetness---------	Wetness.
Ru----------------- Rutlege	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, droughty.
Se----------------- Seagate	Severe: seepage.	Severe: wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, fast intake, droughty.	Droughty.
Wa----------------- Wahee	Slight---------	Severe: wetness.	Severe: slow refill.	Percs slowly---	Wetness, soil blowing, percs slowly.	Wetness, percs slowly.

TABLE 13.--WATER MANAGEMENT--Continued

Map symbol and soil name	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Grassed waterways
YaA----------------- Yauhannah	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable-------	Wetness, fast intake, droughty.	Droughty.
Ye------------------ Yemassee	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Favorable-------	Wetness, soil blowing.	Wetness.

TABLE 14.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than. Absence of an entry indicates that data were not estimated. Some soils may have Unified classifications and USDA textures in addition to those shown. In general, the dominant classifications and textures are shown]

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
AbA---------------Albany	0-54	Fine sand--------	SM, SP-SM	A-2-4, A-3	100	100	75-90	10-20	---	NP
	54-59	Sandy loam-------	SM	A-2-4	100	100	75-92	22-30	---	NP
	59-75	Sandy clay loam, sandy loam, fine sandy loam.	SC, SM, SM-SC	A-2-4, A-4 A-6	97-100	95-100	70-100	20-50	<40	NP-17
ApB---------------Alpin	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	95-100	90-100	60-100	5-20	---	NP
	7-54	Fine sand, sand	SP-SM	A-3, A-2-4	95-100	90-100	60-100	5-20	---	NP
	54-85	Fine sand, sand	SP-SM, SM	A-2-4	95-100	90-100	60-100	11-20	---	NP
BlA, BlB---------Blanton	0-44	Fine sand--------	SP-SM, SM	A-3, A-2-4	100	90-100	65-100	5-20	---	NP
	44-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SM-SC, SM	A-4, A-2-4, A-2-6, A-6	100	95-100	69-96	25-50	16-45	3-22
BoA, BoB---------Bonneau	0-27	Fine sand--------	SM, SP-SM	A-2, A-3	100	100	60-95	8-20	---	NP
	27-80	Sandy loam, sandy clay loam, fine sandy loam.	SC, SM-SC	A-2, A-6, A-4	100	100	60-100	30-50	21-40	4-21
Br---------------Brookman	0-8	Clay loam--------	CL, ML, CL-ML	A-6, A-4	100	95-100	75-100	51-81	25-40	4-19
	8-49	Sandy clay, clay, clay loam.	CH, CL	A-7, A-6	100	98-100	85-100	55-91	37-65	18-41
	49-76	Sandy clay, clay, sandy clay loam.	CL, CH, SC	A-6, A-7	100	90-100	70-100	43-90	25-55	11-35
Ca---------------Capers	0-21	Silty clay loam	MH	A-7-5	100	100	80-100	70-100	50-81	15-40
	21-80	Clay, silty clay	MH	A-7-5	100	100	85-100	75-100	52-80	6-40
ChA--------------Chipley	0-7	Sand-------------	SP-SM	A-3, A-2-4	100	100	80-100	6-12	---	NP
	7-75	Sand, coarse sand	SP-SM	A-3, A-2-4	100	100	70-100	6-12	---	NP
CoB--------------Chisolm	0-30	Fine sand--------	SP-SM, SM	A-2-4, A-3	100	98-100	75-98	5-27	---	NP
	30-58	Sandy clay loam, sandy loam, fine sandy loam.	SM-SC, SC, CL, CL-ML	A-4, A-6	100	98-100	75-98	36-55	20-35	4-15
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4, A-6	100	98-100	65-98	25-50	16-35	2-15
Cs---------------Coosaw	0-26	Loamy fine sand	SM	A-2-4	100	100	90-100	15-30	---	NP
	26-78	Sandy clay loam, fine sandy loam, sandy loam.	SM, SC, SM-SC	A-2-6, A-4 A-6	100	95-100	80-100	25-50	16-39	2-17
Cx---------------Coxville	0-11	Loam-------------	SM, ML, CL-ML, CL	A-4, A-6, A-7	100	100	85-97	46-75	20-46	3-15
	11-80	Clay loam, sandy clay, clay.	CL, CH	A-6, A-7	100	100	85-98	50-85	30-55	12-35
Da---------------Daleville	0-26	Silt loam--------	ML, CL-ML	A-4	100	100	85-100	60-90	<30	NP-7
	26-80	Clay loam, loam, silty clay loam.	CL	A-6	100	100	90-100	70-80	28-38	11-20

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Ec----------------- Echaw	0-7	Fine sand---------	SP, SP-SM	A-3	100	100	50-80	4-10	---	NP
	7-45	Loamy sand, fine sand, loamy fine sand.	SM	A-2-4, A-3	100	100	50-75	5-30	---	NP
	45-80	Fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2, A-3	100	100	50-70	5-20	---	NP
Eo----------------- Elloree	0-20	Loamy fine sand	SM	A-2	100	98-100	70-90	15-35	<25	NP-4
	20-23	Sand, fine sand, loamy sand.	SP-SM, SM	A-2, A-3	100	98-100	65-90	9-27	---	NP
	23-72	Sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2	100	98-100	60-90	15-35	<30	NP-12
	72-80	Loamy sand, sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4, A-6	100	98-100	60-90	15-45	<40	NP-18
EpB---------------- Emporia	0-14	Loamy fine sand	SM, SM-SC	A-2, A-1, A-4	90-100	80-100	40-85	15-40	<18	NP-7
	14-41	Sandy clay loam, sandy loam, clay loam.	SC, CL	A-2, A-4, A-6, A-7	90-100	80-100	45-95	25-70	20-50	8-30
	41-54	Sandy clay loam, clay loam, sandy clay.	SC, CL, CH	A-2, A-4, A-6, A-7	90-100	80-100	45-95	30-80	25-55	8-30
	54-75	Stratified sandy loam to clay loam.	SM, SC, ML, CL	A-1, A-2, A-4, A-6	70-100	55-100	30-90	20-60	<40	NP-25
EuA, EuB---------- Eulonia	0-11	Fine sandy loam	SM, SC, SM-SC	A-2, A-4	100	95-100	60-98	30-50	<30	NP-10
	11-27	Sandy clay, clay, sandy clay loam.	SC, CL	A-6, A-7, A-4	100	95-100	70-99	45-80	25-45	8-20
	27-49	Sandy clay loam, sandy loam.	SC, SM, SM-SC	A-2, A-4, A-6	100	90-100	60-100	18-50	16-35	3-15
	49-80	Variable----------	---	---	---	---	---	---	---	---
FoA---------------- Foreston	0-13	Loamy fine sand	SM	A-2	100	100	60-100	15-30	---	NP
	13-32	Sandy loam, fine sandy loam.	SM	A-2	100	100	70-100	18-35	<25	NP-4
	32-53	Loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2, A-3	100	100	50-98	6-25	---	NP
	53-80	Fine sandy loam, sandy clay loam.	SC, SM-SC, SM	A-2, A-4, A-6, A-7	100	100	55-90	25-49	<45	NP-25
FxB---------------- Foxworth	0-14	Fine sand---------	SP-SM	A-3, A-2-4	100	100	60-100	5-12	---	NP
	14-85	Sand, fine sand	SP, SP-SM	A-3, A-2-4	100	100	50-100	1-12	---	NP
GoA---------------- Goldsboro	0-14	Loamy sand--------	SM	A-2	95-100	95-100	50-95	13-30	<20	NP
	14-62	Sandy clay loam, sandy loam.	SM-SC, SC, CL-ML, CL	A-2, A-4, A-6	98-100	95-100	60-100	25-55	16-37	4-18
	62-80	Variable----------	---	---	---	---	---	---	---	---
Gr----------------- Grifton	0-10	Fine sandy loam	SM, SM-SC	A-2, A-4	100	95-100	60-100	20-45	<30	NP-7
	10-61	Fine sandy loam, sandy clay loam, clay loam.	SC, CL	A-4, A-6	98-100	95-100	60-100	31-60	20-35	8-15
	61-80	Variable----------	---	---	---	---	---	---	---	---

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
Hb---------------- Handsboro	0-48	Muck-------------	PT	---	---	---	---	---	---	---
	48-80	Stratified sapric and mineral material.	PT	---	---	---	---	---	---	---
Hp. Haplaquents										
IzA, IzB--------- Izagora	0-13	Silt loam--------	CL, CL-ML, ML	A-4	95-100	95-100	85-100	60-90	<30	NP-10
	13-41	Loam, clay loam, silty clay loam.	CL	A-4, A-6, A-7	95-100	95-100	85-100	60-95	25-45	8-25
	41-80	Clay loam, silty clay.	CL, CH	A-6, A-7	95-100	95-100	90-100	70-95	35-60	20-40
Jd---------------- Jedburg	0-15	Loam-------------	SM, SM-SC	A-4	100	95-100	60-95	40-75	<30	0-10
	15-75	Loam, silt loam, clay loam.	CL	A-4, A-6	100	95-100	85-100	70-95	25-40	9-20
	75-80	Clay loam, sandy clay loam.	SC, CL	A-6, A-7-6	100	95-100	80-100	40-80	30-50	10-25
JoA--------------- Johns	0-6	Loamy sand-------	SM	A-2, A-4	100	95-100	60-90	15-45	---	NP
	6-31	Sandy clay loam, sandy loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6, A-7	100	95-100	60-98	30-65	20-45	5-25
	31-80	Sand, loamy sand, coarse sand.	SM, SP-SM, SP	A-2, A-3	95-100	95-100	51-90	4-25	---	NP
Le---------------- Leon	0-17	Sand-------------	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	---	NP
	17-65	Sand, coarse sand, loamy sand	SM, SP-SM, SP	A-3, A-2-4	100	100	70-100	3-20	---	NP
	65-80	Sand, coarse sand	SP, SP-SM	A-3, A-2-4	100	100	70-100	2-12	---	NP
Lm---------------- Lumbee	0-5	Fine sandy loam	SM, SM-SC	A-2, A-4	100	85-100	65-98	15-45	<20	NP-7
	5-37	Sandy clay loam, sandy loam, clay loam.	SC, CL	A-4, A-6, A-7	100	90-100	65-98	36-60	19-45	7-25
	37-70	Loamy sand, sand, coarse sand.	SP, SM, SP-SM	A-2, A-3	90-100	85-100	50-90	4-25	---	NP
Ln---------------- Lynchburg	0-7	Loamy sand-------	SM, SP-SM	A-2	92-100	90-100	60-100	12-35	<25	NP-4
	7-80	Sandy clay loam, sandy loam, clay loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	92-100	90-100	70-100	25-67	16-40	4-18
Ly---------------- Lynn Haven	0-19	Fine sand--------	SP, SP-SM, SM	A-3, A-2-4	100	100	80-100	2-14	---	NP
	19-49	Sand, fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	100	100	70-100	5-20	---	NP
	49-75	Sand, fine sand	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	---	NP
Mo---------------- Mouzon	0-8	Fine sandy loam	SM, SM-SC, ML	A-4	100	90-100	65-90	40-70	<32	NP-7
	8-61	Sandy clay loam, clay loam.	SC, CL	A-6	100	90-100	70-90	30-75	30-40	7-21
	61-68	Sandy loam, sandy clay loam.	CL-ML, SC, SM	A-4, A-6	100	90-100	60-85	35-50	20-40	3-21
	68-80	Variable---------	---	---	---	---	---	---	---	---
Na---------------- Nakina	0-18	Fine sandy loam	SM, ML	A-2-4	100	100	85-100	20-60	<30	NP-7
	18-61	Sandy clay loam, fine sandy loam.	SM	A-4, A-6, A-2	100	100	90-100	28-45	28-40	9-18
	61-80	Variable---------	---	---	---	---	---	---	---	---

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
NoA-------------	0-14	Loamy sand-------	SM	A-2	95-100	92-100	50-95	13-30	<20	NP
Noboco	14-80	Sandy loam, sandy clay loam, clay loam.	SM-SC, SC, CL, CL-ML	A-2, A-4, A-6	95-100	95-100	70-96	30-63	20-38	4-15
OcA-------------	0-23	Sand-------------	SM, SP-SM	A-2, A-3	100	95-100	70-100	8-35	---	NP
Ocilla	23-80	Sandy loam, sandy clay loam.	SM, CL, SC, ML	A-2, A-4, A-6	100	95-100	80-100	20-55	20-40	NP-18
Og--------------	0-12	Fine sandy loam	SM	A-2	100	95-100	48-70	15-25	<30	NP-5
Ogeechee	12-57	Sandy clay loam, clay loam.	SC, CL	A-6	100	95-100	65-85	40-55	32-40	16-23
	57-65	Sandy clay loam, sandy loam.	SC	A-6, A-2	100	90-100	50-65	25-45	30-40	15-25
Os--------------	0-3	Loamy fine sand	SM	A-2	100	98-100	70-90	13-25	---	NP
Osier	3-80	Coarse sand, sand, fine sand.	SP, SP-SM	A-1-6, A-3 A-2-4	100	90-100	40-60	2-10	---	NP
Pa--------------	0-18	Sandy loam-------	SM, SM-SC, CL, ML	A-2, A-4	100	95-100	60-95	25-75	<35	NP-10
Pantego	18-37	Sandy clay loam, sandy loam, clay loam.	SC, CL, SM-SC, CL-ML	A-4, A-6, A-2	100	95-100	80-100	30-80	20-40	4-16
	37-80	Sandy loam, sandy clay, sandy clay loam.	CL, SC	A-6, A-7	100	95-100	90-100	36-80	25-49	11-24
Pe--------------	0-35	Sand-------------	SM, SP-SM	A-2	100	95-100	75-90	10-25	---	NP
Pelham	35-80	Sandy clay loam, sandy loam.	SM, SC, SM-SC	A-2, A-4, A-6	100	95-100	65-90	27-50	16-30	2-12
Pm--------------	0-9	Loamy sand-------	SM, SP-SM	A-2-4, A-3	100	100	75-96	5-26	---	NP
Plummer	9-58	Sand, fine sand, loamy sand.	SM, SP-SM	A-2-4, A-3	100	100	75-96	5-26	---	NP
	58-75	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SM-SC	A-2-4, A-4	100	97-100	76-96	20-48	<30	NP-10
Ra--------------	0-9	Sandy loam-------	SM, ML	A-2, A-4	100	95-100	50-85	25-56	<35	NP-10
Rains	9-42	Sandy clay loam, clay loam.	SC, SM-SC, CL, CL-ML	A-2, A-4, A-6	100	95-100	55-98	30-70	18-40	4-20
	42-56	Sandy clay loam, clay loam, sandy clay.	SC, SM-SC, CL, CL-ML	A-4, A-6, A-7	100	98-100	60-98	36-72	18-45	4-28
	56-80	Sandy loam, sandy clay loam, sandy clay.	SM, SC, ML, CL	A-2, A-4, A-6	100	95-100	60-95	30-60	16-40	3-18
Ru--------------	0-21	Loamy fine sand	SM, SP-SM	A-2, A-3	95-100	95-100	50-80	5-35	<25	NP
Rutlege	21-75	Sand, loamy sand, fine sand.	SP-SM, SP, SM	A-2, A-3	95-100	95-100	50-80	2-25	<20	NP
Se--------------	0-14	Sand-------------	SM, SP-SM	A-2, A-3	100	100	90-100	5-20	---	NP
Seagate	14-18	Fine sand, loamy sand, sand.	SM, SP-SM	A-2	100	100	90-100	10-25	---	NP
	18-32	Fine sand, sand	SM, SP-SM	A-2, A-3	100	100	90-100	5-20	---	NP
	32-79	Fine sandy loam, sandy clay loam.	SM, SM-SC	A-2, A-4	100	100	85-100	20-45	<30	NP-7
Wa--------------	0-10	Fine sandy loam	SM, SM-SC	A-2, A-4	100	95-100	50-98	30-50	<28	NP-7
Wahee	10-80	Clay, clay loam.	CL, CH	A-6, A-7	100	100	85-100	51-90	38-70	18-42

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
YaA-------------- Yauhannah	0-18	Loamy fine sand	SM	A-2-4	100	100	75-100	15-35	<25	NP-4
	18-52	Sandy clay loam, clay loam, fine sandy loam.	SC, CL, SM-SC, CL-ML	A-2, A-4, A-6	100	95-100	75-100	25-55	<35	NP-16
	52-76	Fine sandy loam, sandy loam, sandy clay loam.	SM, SM-SC, SC	A-2, A-4	100	95-100	75-100	25-50	25-50	NP-25
	76-80	Sandy loam, loamy fine sand, fine sand.	SM, SM-SC, SP-SM	A-2, A-4	100	100	75-100	10-45	<28	NP-6
Ye--------------- Yemassee	0-15	Fine sandy loam	SM	A-2, A-4	100	100	75-100	25-50	<30	NP-7
	15-48	Sandy clay loam, clay loam, fine sandy loam.	CL, SC, CL-ML, SM-SC	A-2, A-4, A-6	100	100	75-100	30-70	16-38	4-18
	48-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, CL-ML, SM-SC	A-2, A-4, A-6	100	100	75-100	25-55	<35	NP-15

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors K	Erosion factors T	Wind erodibility group	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH	Mmhos/cm					Pct
AbA-------------	0-54	1-10	1.40-1.55	6.0-20	0.02-0.04	4.5-6.5	<2	Low--------	0.10	5	1	1-2
Albany	54-59	1-20	1.50-1.70	2.0-6.0	0.08-0.10	4.5-6.0	<2	Low--------	0.20			
	59-75	13-35	1.55-1.65	0.6-2.0	0.10-0.16	4.5-6.0	<2	Low--------	0.24			
ApB-------------	0-7	1-12	1.35-1.55	2.0-6.0	0.05-0.10	4.5-6.5	<2	Low--------	0.10	5	2	0-2
Alpin	7-54	1-7	1.40-1.55	6.0-20.0	0.03-0.09	4.5-6.5	<2	Low--------	0.10			
	54-85	5-8	1.45-1.65	2.0-6.0	0.06-0.09	4.5-6.5	<2	Low--------	0.10			
BlA, BlB---------	0-44	1-7	1.30-1.60	6.0-20	0.03-0.07	4.5-6.0	<2	Low--------	0.10	5	2	.5-1
Blanton	44-80	12-30	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low--------	0.20			
BoA, BoB---------	0-27	2-8	1.30-1.70	6.0-20	0.04-0.08	4.5-6.0	<2	Low--------	0.15	5	1	.5-2
Bonneau	27-80	18-35	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low--------	0.20			
Br---------------	0-8	5-30	1.20-1.45	0.6-2.0	0.15-0.20	4.5-6.5	<2	Low--------	0.24	4	5	3-10
Brookman	8-49	35-55	1.30-1.50	0.6-2.0	0.18-0.22	4.5-6.5	<2	Moderate	0.28			
	49-76	20-55	1.45-1.65	0.06-0.2	0.12-0.16	5.1-7.8	<2	Moderate	0.24			
Ca---------------	0-21	35-50	---	0.06-0.2	0.01-0.03	5.6-7.8	>16	High-------	0.28	5	---	---
Capers	21-80	40-70	---	<0.06	0.01-0.03	6.6-8.4	>16	High-------	----			
ChA--------------	0-7	1-5	1.35-1.45	6.0-20	0.05-0.10	4.5-6.0	<2	Low--------	0.10	5	2	2-5
Chipley	7-75	1-7	1.45-1.60	6.0-20	0.03-0.08	4.5-6.5	<2	Low--------	0.10			
CoB--------------	0-30	2-10	1.40-1.70	6.0-20	0.03-0.05	4.5-6.0	<2	Low--------	0.10	5	1	<1
Chisolm	30-58	18-35	1.30-1.50	0.6-2.0	0.10-0.15	4.5-6.0	<2	Low--------	0.15			
	58-80	15-35	1.30-1.50	0.6-6.0	0.08-0.15	4.5-6.0	<2	Low--------	0.15			
Cs---------------	0-26	5-12	1.40-1.70	6.0-20	0.06-0.11	4.5-6.0	<2	Low--------	0.15	5	2	.5-2
Coosaw	26-78	18-35	1.30-1.50	0.6-2.0	0.08-0.16	4.5-5.5	<2	Low--------	0.24			
Cx---------------	0-11	5-27	1.45-1.65	0.6-2.0	0.12-0.17	3.6-5.5	<2	Low--------	0.24	5	---	2-4
Coxville	11-80	35-60	1.25-1.45	0.2-0.6	0.14-0.18	3.6-5.5	<2	Moderate	0.32			
Da---------------	0-26	10-20	1.40-1.50	0.6-2.0	0.18-0.20	4.5-6.5	<2	Low--------	0.32	5	---	.5-2
Daleville	26-80	20-35	1.40-1.50	0.06-0.6	0.16-0.20	4.5-5.5	<2	Moderate	0.37			
Ec---------------	0-7	1-8	1.40-1.60	2.0-20	0.03-0.08	4.5-6.0	<2	Low--------	0.10	5	1	<1
Echaw	7-45	2-10	1.40-1.60	6.0-20	0.05-0.10	4.5-6.0	<2	Low--------	0.10			
	45-80	2-10	1.50-1.70	2.0-20	0.03-0.08	4.5-6.0	<2	Low--------	0.10			
Eo---------------	0-20	2-8	1.40-1.60	6.0-20	0.06-0.11	4.5-6.5	<2	Low--------	0.15	5	---	2-8
Elloree	20-23	1-6	1.50-1.70	6.0-20	0.02-0.10	5.1-7.3	<2	Low--------	0.10			
	23-72	9-25	1.30-1.60	2.0-6.0	0.10-0.15	5.1-8.4	<2	Low--------	0.15			
	72-80	5-25	1.30-1.50	0.6-6.0	0.10-0.17	5.1-8.4	<2	Low--------	0.17			
EpB--------------	0-14	5-10	1.30-1.40	6.0-20	0.05-0.10	4.5-6.0	<2	Low--------	0.28	4	2	.5-3
Emporia	14-41	18-35	1.35-1.45	0.2-2.0	0.10-0.18	4.5-6.0	<2	Low--------	0.28			
	41-54	21-40	1.45-1.60	0.06-0.6	0.10-0.16	4.5-6.0	<2	Moderate	0.20			
	54-75	5-40	1.45-1.60	0.06-2.0	0.08-0.18	4.5-6.0	<2	Moderate	0.20			
EuA, EuB---------	0-11	5-20	1.40-1.60	2.0-6.0	0.08-0.12	4.5-6.5	<2	Low--------	0.24	5	3	.5-2
Eulonia	11-27	35-45	1.50-1.70	0.2-0.6	0.12-0.16	4.5-6.0	<2	Low--------	0.24			
	27-49	15-35	1.50-1.70	0.6-2.0	0.10-0.14	4.5-6.0	<2	Low--------	0.20			
	49-80	---	---	---	---	---	---	-----------	----			

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors		Wind erodi- bility group	Organic matter
									K	T		
	In	Pct	G/cc	In/hr	In/in	pH	Mmhos/cm					Pct
FoA--------------	0-13	5-12	1.20-1.40	6.0-20	0.05-0.10	4.5-6.5	<2	Low--------	0.15	5	2	.5-2
Foreston	13-32	10-18	1.20-1.40	2.0-6.0	0.09-0.13	4.5-6.0	<2	Low--------	0.10			
	32-53	4-12	1.30-1.60	6.0-20	0.03-0.10	4.5-6.0	<2	Low--------	0.10			
	53-80	10-35	1.35-1.60	0.6-2.0	0.12-0.16	4.5-6.0	<2	Low--------	0.20			
FxB--------------	0-14	1-8	1.25-1.55	>20	0.02-0.10	4.5-6.0	<2	Low--------	0.10	5	2	<1
Foxworth	14-85	1-6	1.40-1.60	>20	0.02-0.08	4.5-6.0	<2	Low--------	0.10			
GoA--------------	0-14	2-8	1.55-1.75	6.0-20.0	0.06-0.11	4.5-6.0	<2	Low--------	0.17	5	---	.5-2
Goldsboro	14-62	18-30	1.30-1.50	0.6-2.0	0.11-0.15	4.5-5.5	<2	Low--------	0.24			
	62-80	---	---	---	---	---	---	-----------	----			
Gr---------------	0-10	7-18	1.45-1.65	2.0-6.0	0.10-0.14	4.5-6.5	<2	Low--------	0.20	5	---	2-4
Grifton	10-61	18-35	1.35-1.45	0.6-2.0	0.12-0.17	5.6-8.4	<2	Low--------	0.24			
	61-80	---	---	---	---	---	---	-----------	----			
Hb---------------	0-48	---	0.75-1.40	---	---	6.6-8.4	>16	-----------	----	---	---	---
Handsboro	48-80	---	0.75-1.40	---	---	6.6-8.4	---	-----------	----			
Hp.												
Haplaquents												
IzA, IzB---------	0-13	10-20	1.40-1.60	2.0-6.0	0.16-0.22	3.6-6.0	<2	Low--------	0.37	5	---	.5-2
Izagora	13-41	18-30	1.40-1.60	0.6-2.0	0.12-0.20	3.6-5.5	<2	Low--------	0.32			
	41-80	35-55	1.30-1.60	0.06-0.2	0.16-0.20	3.6-5.5	<2	Moderate--	0.32			
Jd---------------	0-15	10-18	1.40-1.50	2.0-6.0	0.11-0.17	4.5-6.0	<2	Low--------	0.32	5	3	1-3
Jedburg	15-75	18-30	1.30-1.40	0.2-0.6	0.15-0.22	4.5-6.0	<2	Low--------	0.28			
	75-80	20-40	1.20-1.40	0.2-0.6	0.12-0.20	4.5-6.0	<2	Low--------	0.28			
JoA--------------	0-6	4-12	1.60-1.75	2.0-6.0	0.06-0.11	4.5-5.5	<2	Low--------	0.15	5	---	.5-2
Johns	6-31	18-35	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	<2	Low--------	0.24			
	31-80	2-10	1.60-1.75	6.0-20	0.03-0.06	4.5-5.5	<2	Low--------	0.10			
Le---------------	0-17	1-6	1.40-1.65	6.0-20	0.02-0.05	3.6-5.5	<2	Low--------	0.10	5	2	.5-4
Leon	17-65	2-8	1.50-1.70	0.6-6.0	0.05-0.10	3.6-5.5	<2	Low--------	0.15			
	65-80	1-6	1.40-1.65	0.6-6.0	0.02-0.05	3.6-5.5	<2	Low--------	0.10			
Lm---------------	0-5	4-18	1.55-1.70	2.0-6.0	0.08-0.12	4.5-5.5	<2	Low--------	0.24	5	---	2-4
Lumbee	5-37	18-35	1.30-1.45	0.6-2.0	0.12-0.16	4.5-5.5	<2	Low--------	0.32			
	37-70	1-10	1.60-1.75	6.0-20	0.03-0.06	4.5-5.5	<2	Low--------	0.10			
Ln---------------	0-7	2-10	1.40-1.70	6.0-20	0.07-0.10	3.6-5.5	<2	Low--------	0.15	5	2	.5-5
Lynchburg	7-80	18-35	1.30-1.50	0.6-2.0	0.12-0.16	3.6-5.5	<2	Low--------	0.20			
Ly---------------	0-19	1-4	1.35-1.60	6.0-20	0.05-0.10	3.6-5.5	<2	Low--------	0.10	5	2	1-4
Lynn Haven	19-49	2-8	1.40-1.55	0.6-6.0	0.10-0.20	3.6-5.5	<2	Low--------	0.15			
	49-75	2-5	1.50-1.65	>20	0.01-0.05	3.6-5.5	<2	Low--------	0.10			
Mo---------------	0-8	10-22	1.30-1.50	2.0-6.0	0.10-0.15	4.5-6.5	<2	Low--------	0.20	5	2	.5-4
Mouzon	8-61	18-35	1.30-1.50	0.06-0.2	0.10-0.15	5.1-8.4	<2	Low--------	0.20			
	61-68	12-35	1.30-1.50	0.2-0.6	0.10-0.15	6.1-8.4	<2	Low--------	0.20			
	68-80	---	---	---	---	---	---	-----------	----			
Na---------------	0-18	10-15	1.60-1.70	2.0-6.0	0.15-0.20	4.5-6.5	<2	Low--------	0.20	5	---	6-15
Nakina	18-61	18-30	1.60-1.70	0.6-6.0	0.12-0.17	5.1-8.4	<2	Low--------	0.28			
	61-80	---	---	---	---	---	---	-----------	----			
NoA--------------	0-14	2-8	1.55-1.75	6.0-20	0.06-0.11	4.5-6.0	<2	Low--------	0.17	5	---	.5-2
Noboco	14-80	18-35	1.30-1.45	0.6-2.0	0.10-0.20	4.5-5.5	<2	Low--------	0.24			

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors		Wind erodi- bility group	Organic matter
									K	T		
	In	Pct	G/cc	In/hr	In/in	pH	Mmhos/cm					Pct
OcA---------------	0-23	3-10	1.45-1.65	2.0-20	0.05-0.07	4.5-5.5	<2	Low--------	0.10	5	2	1-2
Ocilla	23-80	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	<2	Low--------	0.24			
Og----------------	0-12	5-10	1.35-1.45	0.6-2.0	0.10-0.14	4.5-5.5	<2	Low--------	0.10	5	---	1-2
Ogeechee	12-57	20-35	1.55-1.65	0.6-2.0	0.08-0.14	4.5-5.5	<2	Low--------	0.15			
	57-65	15-30	1.55-1.65	0.6-2.0	0.10-0.14	4.5-5.5	<2	Low--------	0.15			
Os----------------	0-3	10-15	1.35-1.60	6.0-20	0.10-0.15	3.6-6.0	<2	Low--------	0.15	5	3	2-5
Osier	3-80	2-5	1.40-1.60	>20	0.02-0.05	3.6-6.0	<2	Low--------	0.05			
Pa----------------	0-18	5-15	1.40-1.60	2.0-6.0	0.10-0.20	3.6-5.5	<2	Low--------	0.15	5	---	4-10
Pantego	18-37	18-35	1.30-1.40	0.6-2.0	0.12-0.20	3.6-5.5	<2	Low--------	0.28			
	37-80	18-40	1.25-1.40	0.6-2.0	0.15-0.20	3.6-5.5	<2	Low--------	0.28			
Pe----------------	0-35	1-8	1.50-1.70	6.0-20	0.04-0.07	4.5-5.5	<2	Very low	0.10	5	2	1-2
Pelham	35-80	15-30	1.30-1.60	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low--------	0.24			
Pm----------------	0-9	1-7	1.35-1.65	6.0-20.0	0.03-0.08	3.6-5.5	<2	Very low	0.10	5	---	1-15
Plummer	9-58	1-7	1.35-1.65	6.0-20.0	0.03-0.20	3.6-5.5	<2	Very low	0.10			
	58-75	15-30	1.50-1.70	0.6-2.0	0.07-0.15	3.6-5.5	<2	Very low	0.15			
Ra----------------	0-9	5-20	1.30-1.60	2.0-6.0	0.10-0.14	4.5-6.5	<2	Low--------	0.20	5	3	1-6
Rains	9-42	18-35	1.30-1.50	0.6-2.0	0.11-0.15	4.5-5.5	<2	Low--------	0.24			
	42-56	18-40	1.30-1.50	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low--------	0.28			
	56-80	15-45	1.30-1.60	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low--------	0.28			
Ru----------------	0-21	<10	---	6.0-20	0.04-0.10	3.6-5.5	<2	Low--------	0.17	5	---	3-15
Rutlege	21-75	<10	---	6.0-20	0.04-0.08	3.6-5.5	<2	Low--------	0.17			
Se----------------	0-14	0-3	1.60-1.70	6.0-20.0	0.03-0.06	3.6-6.0	<2	Low--------	0.10	5	---	<.5
Seagate	14-18	3-10	1.60-1.70	6.0-20.0	0.05-0.12	3.6-6.0	<2	Low--------	0.15			
	18-32	1-5	1.60-1.70	2.0-6.0	0.03-0.06	3.6-6.0	<2	Low--------	0.10			
	32-79	10-35	1.40-1.50	0.6-2.0	0.12-0.20	3.6-6.0	<2	Low--------	0.28			
Wa----------------	0-10	5-20	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	<2	Low--------	0.24	5	3	.5-5
Wahee	10-80	35-55	1.40-1.60	0.06-0.2	0.12-0.20	3.6-5.5	<2	Moderate	0.28			
YaA---------------	0-18	5-15	1.40-1.60	6.0-20	0.06-0.11	3.6-6.5	<2	Low--------	0.17	5	2	.5-4
Yauhannah	18-52	18-35	1.30-1.50	0.6-2.0	0.11-0.16	3.6-6.0	<2	Low--------	0.24			
	52-76	10-30	1.30-1.50	2.0-6.0	0.10-0.15	3.6-6.0	<2	Low--------	0.24			
	76-80	5-15	1.30-1.60	2.0-20	0.06-0.12	3.6-6.0	<2	Low--------	0.17			
Ye----------------	0-15	10-20	1.30-1.60	2.0-6.0	0.10-0.15	3.6-6.0	<2	Low--------	0.20	5	3	.5-4
Yemassee	15-48	18-35	1.30-1.50	0.6-2.0	0.11-0.18	3.6-5.5	<2	Low--------	0.20			
	48-80	12-40	1.30-1.50	0.6-2.0	0.11-0.17	3.6-5.5	<2	Low--------	0.20			

TABLE 16.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol > means more than. 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	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
AbA--------------- Albany	C	None--------	---	---	1.0-2.5	Apparent	Dec-Mar	High-----	High.
ApB--------------- Alpin	A	None--------	---	---	>6.0	---	---	Low------	High.
BlA, BlB---------- Blanton	A	None--------	---	---	5.0-6.0	Perched	Dec-Mar	High-----	High.
BoA, BoB---------- Bonneau	A	None--------	---	---	3.5-5.0	Apparent	Dec-Mar	Low------	High.
Br---------------- Brookman	D	Frequent----	Long------	Nov-Apr	0-1.0	Apparent	Nov-May	Moderate	Moderate.
Ca---------------- Capers	D	Frequent----	Very brief	Jan-Dec	+1-1.0	Apparent	Jan-Dec	High-----	High.
ChA--------------- Chipley	C	None--------	---	---	2.0-3.0	Apparent	Dec-Apr	Low------	High.
CoB--------------- Chisolm	A	None--------	---	---	3.5-5.0	Apparent	Jan-Mar	Low------	High.
Cs---------------- Coosaw	D	None--------	---	---	2.0-3.0	Apparent	Dec-Mar	Moderate	High.
Cx---------------- Coxville	D	None--------	---	---	0-1.5	Apparent	Nov-Apr	High-----	High.
Da---------------- Daleville	D	None--------	---	---	0-1.0	Apparent	Nov-May	High-----	High.
Ec---------------- Echaw	B	None--------	---	---	2.5-5.0	Apparent	Nov-Apr	Low------	High.
Eo---------------- Elloree	D	Occasional	Long------	Dec-Apr	0-1.0	Apparent	Nov-Apr	High-----	Moderate.
EpB--------------- Emporia	C	None--------	---	---	3.0-4.5	Perched	Nov-Apr	Moderate	High.
EuA, EuB---------- Eulonia	C	None--------	---	---	1.5-3.5	Apparent	Dec-May	Moderate	High.
FoA--------------- Foreston	C	None--------	---	---	2.0-3.5	Apparent	Dec-Apr	Moderate	High.
FxB--------------- Foxworth	A	None--------	---	---	3.5-6.0	Apparent	Jun-Oct	Low------	High.
GoA--------------- Goldsboro	B	None--------	---	---	2.0-3.0	Apparent	Dec-Apr	Moderate	High.
Gr---------------- Grifton	D	Frequent----	Brief-----	Dec-May	0.5-1.0	Apparent	Dec-May	High-----	Low.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
Hb: Handsboro	D	Frequent	Long	Jan-Dec	+3-0.5	Apparent	Jan-Dec	High	High.
Hp. Haplaquents									
IzA, IzB: Izagora	C	None	---	---	1.5-2.5	Apparent	Dec-Mar	Moderate	High.
Jd: Jedburg	C	None	---	---	0.5-1.5	Apparent	Nov-Apr	High	High.
JoA: Johns	C	Rare	Brief	---	1.5-3.0	Apparent	Dec-Apr	Moderate	High.
Le: Leon	B/D	None	---	---	0-1.0	Apparent	Jun-Feb	High	High.
Lm: Lumbee	B/D	Occasional	Brief	Dec-Apr	0-1.5	Apparent	Nov-Apr	High	High.
Ln: Lynchburg	C	None	---	---	0.5-1.5	Apparent	Nov-Apr	High	High.
Ly: Lynn Haven	B/D	None	---	---	0-1.0	Apparent	Jun-Feb	High	High.
Mo: Mouzon	D	Occasional	Long	Dec-Apr	0-1.0	Apparent	Nov-Apr	High	Moderate.
Na: Nakina	B/D	Rare	Brief	Jan-Mar	0-1.0	Apparent	Nov-Apr	High	Moderate.
NoA: Noboco	B	None	---	---	2.5-4.0	Apparent	Dec-Mar	Moderate	High.
OcA: Ocilla	C	None	---	---	1.0-2.5	Apparent	Dec-Apr	High	Moderate.
Og: Ogeechee	B/D	Rare	Brief	Jan-Mar	0-0.5	Apparent	Dec-May	High	High.
Os: Osier	A/D	Frequent	Brief	Dec-Apr	0-1.0	Apparent	Nov-Mar	High	High.
Pa: Pantego	B/D	None	---	---	0-1.5	Apparent	Dec-May	High	High.
Pe: Pelham	B/D	None	---	---	0.5-1.5	Apparent	Jan-Apr	High	High.
Pm: Plummer	B/D	None	---	---	+2-1.5	Apparent	Dec-Jul	Moderate	High.
Ra: Rains	B/D	None	---	---	0-1.0	Apparent	Nov-Apr	High	High.
Ru: Rutlege	B/D	Frequent	Brief	Dec-May	0-1.0	Apparent	Dec-May	High	High.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
Se----------------- Seagate	A/D	None---------	---	---	1.5-2.5	Apparent	Nov-Apr	High------	High.
Wa----------------- Wahee	D	None---------	---	---	0.5-1.5	Apparent	Dec-Mar	High------	High.
YaA---------------- Yauhannah	B	None---------	---	---	1.5-2.5	Apparent	Dec-Mar	Moderate	High.
Ye----------------- Yemassee	C	None---------	---	---	1.0-1.5	Apparent	Dec-Mar	High------	High.

TABLE 17.--ENGINEERING INDEX TEST DATA

[Dashes indicate data not available. NP means nonplastic]

Soil name, report number, horizon, and depth (in inches)	Classification		Grain-size distribution							Liquid limit	Plasticity index
			Percentage passing sieve--				Percentage smaller than--				
	AASHTO	Unified	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm		
Albany: 1/ S81SC035-10											
A ------- 0-6	A-2-4(0)	SP-SM	---	100	92	12	---	9	---	---	NP
E1 ------ 6-21	A-3(0)	SP-SM	---	100	97	10	---	8	---	---	NP
Bt ------ 54-67	A-2-4(0)	SM	---	100	97	28	---	25	---	---	NP
Chisolm: 2/ S81SC035-7											
A ------- 0-7	A-2-4(0)	SM	---	100	80	24	---	10	---	---	NP
E2 ------ 13-22	A-2-4(0)	SM	100	100	83	27	---	11	---	---	NP
Bt1 ------ 22-41	A-4(0)	SC	---	100	86	42	---	29	---	25	8
Coosaw: 3/ S81SC035-13											
Ap ------ 0-7	A-2-4(0)	SM	---	100	89	21	---	13	---	---	NP
E ------ 7-26	A-2-4(0)	SM	---	100	89	18	---	10	---	---	NP
Bt ------ 26-43	A-2-6(01)	SC	---	100	85	33	---	29	---	37	15
Btg ------ 43-56	A-6(02)	SC	---	100	95	39	---	32	---	39	17
Echaw: 3/ S80SC035-13											
Ap ------ 0-7	A-3(1)	SP-SM	---	100	73	9	---	7	---	---	NP
E2 ------ 18-45	A-2-4(0)	SP-SM	---	100	87	12	---	9	---	---	NP
Bh2 ------ 52-60	A-3(1)	SP-SM	---	100	75	9	---	7	---	---	NP
Osier: 4/ S80SC035-24											
A ------- 0-7	A-1-b(1)	SP-SM	100	97	19	7	---	4	---	---	NP
Cg1 ------ 7-18	A-1-b(1)	SP-SM	100	95	18	7	---	5	---	---	NP
Cg2 ------ 18-62	A-1-b(1)	SP	99	80	4	1	---	1	---	---	NP
Yauhannah: 3/ S80SC035-25											
A ------- 0-4	A-2-4(0)	SM	---	100	91	28	---	15	---	---	NP
BE ------ 18-24	A-2-4(0)	SM	100	99	94	33	---	20	---	---	NP
Bt1 ------ 24-38	A-4(0)	SM	---	100	94	39	---	28	---	---	NP
BCg ------ 52-76	A-2-7(02)	SC	100	99	69	32	---	28	---	46	21

1/ 13.0 miles southwest of Summerville at the intersection of South Carolina Highway 165 and County Road 317, about 4.5 miles east on County Road 317, and 500 feet north of road.

2/ 12.5 miles southwest of Summerville on South Carolina Highway 165, 3.75 miles northwest on South Carolina Highway 84, 500 feet southwest on South Carolina Highway 163, and 150 feet southeast of road.

3/ Sample site is the same as that of the series typical pedon given in "Soil Series and Their Morphology."

4/ 2 miles southeast of Grover, 1.5 miles east of U.S. Highway 15, 4,000 feet south of South Carolina Highway 280, and 3,200 feet north of the Edisto River. This soil is a taxadjunct to the Osier series because the pedon has more coarse sand in the upper part of the profile than is typcial for the series.

TABLE 18.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, thermic Grossarenic Paleudults
Alpin	Thermic, coated Typic Quartzipsamments
Blanton	Loamy, siliceous, thermic Grossarenic Paleudults
Bonneau	Loamy, siliceous, thermic Arenic Paleudults
Brookman	Fine, mixed, thermic Typic Umbraqualfs
Capers	Fine, mixed, nonacid, thermic Typic Sulfaquents
*Chipley	Thermic, coated Aquic Quartzipsamments
Chisolm	Loamy, siliceous, thermic Arenic Hapludults
Coosaw	Loamy, siliceous, thermic Arenic Hapludults
Coxville	Clayey, kaolinitic, thermic Typic Paleaquults
Daleville	Fine-loamy, siliceous, thermic Typic Paleaquults
Echaw	Sandy, siliceous, thermic Entic Haplohumods
*Elloree	Loamy, siliceous, thermic Arenic Ochraqualfs
Emporia	Fine-loamy, siliceous, thermic Typic Hapludults
Eulonia	Clayey, mixed, thermic Aquic Hapludults
Foreston	Coarse-loamy, siliceous, thermic Aquic Paleudults
Foxworth	Thermic, coated Typic Quartzipsamments
Goldsboro	Fine-loamy, siliceous, thermic Aquic Paleudults
Grifton	Fine-loamy, siliceous, thermic Typic Ochraqualfs
*Handsboro	Euic, thermic Typic Sulfihemists
Haplaquents	Haplaquents
Izagora	Fine-loamy, siliceous, thermic Aquic Paleudults
Jedburg	Fine-loamy, siliceous, thermic Aeric Paleaquults
Johns	Fine-loamy over sandy or sandy-skeletal, siliceous, thermic Aquic Hapludults
*Leon	Sandy, siliceous, thermic Aeric Haplaquods
Lumbee	Fine-loamy over sandy or sandy-skeletal, siliceous, thermic Typic Ochraquults
Lynchburg	Fine-loamy, siliceous, thermic Aeric Paleaquults
Lynn Haven	Sandy, siliceous, thermic Typic Haplaquods
Mouzon	Fine-loamy, siliceous, thermic Typic Albaqualfs
Nakina	Fine-loamy, siliceous, thermic Typic Umbraqualfs
Noboco	Fine-loamy, siliceous, thermic Typic Paleudults
Ocilla	Loamy, siliceous, thermic Aquic Arenic Paleudults
Ogeechee	Fine-loamy, siliceous, thermic Typic Ochraquults
Osier	Siliceous, thermic Typic Psammaquents
Pantego	Fine-loamy, siliceous, thermic Umbric Paleaquults
Pelham	Loamy, siliceous, thermic Arenic Paleaquults
Plummer	Loamy, siliceous, thermic Grossarenic Paleaquults
Rains	Fine-loamy, siliceous, thermic Typic Paleaquults
Rutlege	Sandy, siliceous, thermic Typic Humaquepts
*Seagate	Sandy over loamy, siliceous, thermic Ultic Haplohumods
Wahee	Clayey, mixed, thermic Aeric Ochraquults
Yauhannah	Fine-loamy, siliceous, thermic Aquic Hapludults
Yemassee	Fine-loamy, siliceous, thermic Aeric Ochraquults

* The soil is a taxadjunct to the series. See text for description of those characteristics of the soil that are outside the range of the series.

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