United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Alabama Agricultural
Experiment Station and
Alabama Soil and Water
Conservation Committee

Soil Survey of Henry County, Alabama

How To Use This Soil Survey

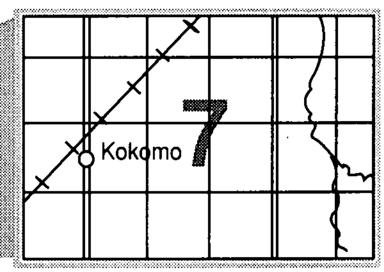
General Soil Map

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.

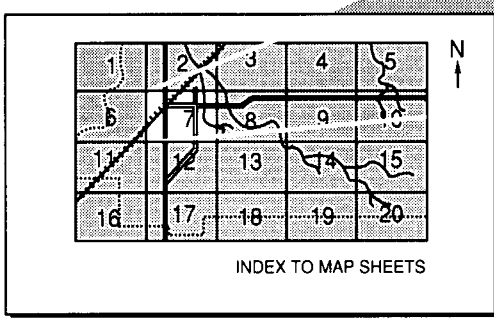
Detailed Soil Maps

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



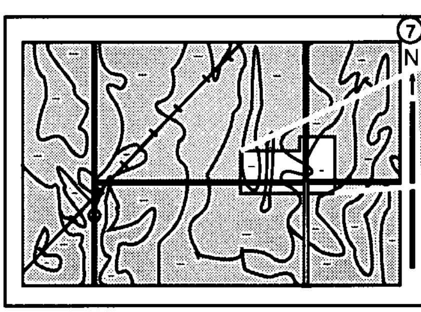
MAP SHEET

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.

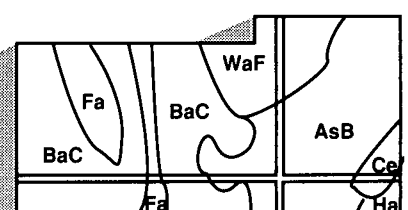


INDEX TO MAP SHEETS

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 Natural Resources Conservation Service (formerly 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 1986. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1986. This soil survey was made cooperatively by the Natural Resources Conservation Service and the Alabama Agricultural Experiment Station, the Alabama Cooperative Extension Service, the Alabama Soil and Water Conservation Committee, and the Alabama Department of Agriculture and Industries. It is part of the technical assistance furnished to the Henry County 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 Natural Resources Conservation Service are offered on a nondiscriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status, or handicap.

Cover: This area of prime farmland is well suited to cultivated crops such as corn and peanuts, which are generally grown in rotation. Corn is being grown in an area of Dothan fine sandy loam, 0 to 2 percent slopes, in the foreground. Peanuts are being grown in an area of Dothan fine sandy loam, 2 to 5 percent slopes, in the background.

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Issued October 1997

Summary of Tables

Foreword

This soil survey contains information that can be used in land-planning programs in Henry County. 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, ranchers, 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 ensure 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 shallow to bedrock. 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 Natural Resources Conservation Service or the Cooperative Extension Service.

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State Conservationist
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Soil Survey of Henry County, Alabama

By Kenneth W. Johnson, Natural Resources Conservation Service

Fieldwork by Kenneth W. Johnson and Robert M. Beaty, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
the Alabama Agricultural Experiment Station, the Alabama Cooperative Extension Service, and the Alabama Soil and Water Conservation Committee

Henry County is in the southeastern part of Alabama (fig. 1). It is one of the smallest counties in the state, with a total area of 363,470 acres, or about 568 square miles. It is bounded on the east by the Chattahoochee River, which separates Henry County from Clay and Early Counties in Georgia. It is bounded on the west by Dale County, on the north by Barbour County, and on the south by Houston County. Abbeville, the largest town, is the county seat. It is centrally located in the county. Other towns, which serve as trading centers, include Headland and Newville in the southwestern part of the county, Haleburg in the southeastern part, and Shorterville in the east-central part.

This soil survey updates an earlier survey of Henry County published in 1909 *(12)*. It provides additional information and larger maps, which show the soils in greater detail.

General Nature of the County

This section provides general information about the county. It gives a brief description of the history and development of the county, agriculture, geology, and climate.

History and Development

Henry County was founded on December 13, 1819, just one day before Alabama was admitted to the Union. It was created from part of the Alabama territory originally included in the Georgia Grant of 1732. The area later became part of the Mississippi Territory *(22)*. It was sparsely populated, and the principal settlements were at Columbia and Franklin on the Chattahoochee River. Early settlers were dependent on the river as a link to markets and supplies *(21)*.

Expansion soon took place, and crude roads were built into the interior of the area. The expansion occurred first in a northwesterly direction, into the higher elevations of the survey area. Houses were built along ridges in the present-day Hillardsville, Lawrenceville, and Centerville areas.

The "flat lands," or pine woods areas, were not settled until much later, mainly because of the lack of a dependable water supply and the prevalence of disease *(22)*. These areas include the communities of Tumbleton, Browns Crossroads, Headland, Newville, and Blackwoods.

Abbeville, the county seat, was established about 1833 on the site of an old Indian village. The name was derived from the nearby Abbie, or "Yattawahee," Creek. Headland, in the southern part of the county, was established in 1871 by Dr. J.J. Head, who owned the land and designed the town *(22)*.

Agriculture

Agriculture has always played an important role in the economy of Henry County. The first crops were grown by Native American farmers along the Chattahoochee River, south of Franklin. Early settlers made their first agricultural efforts in 1816 in fields abandoned by the Native American farmers. They grew small acreages of corn, potatoes, and other vegetables to maintain the few families living along the river.

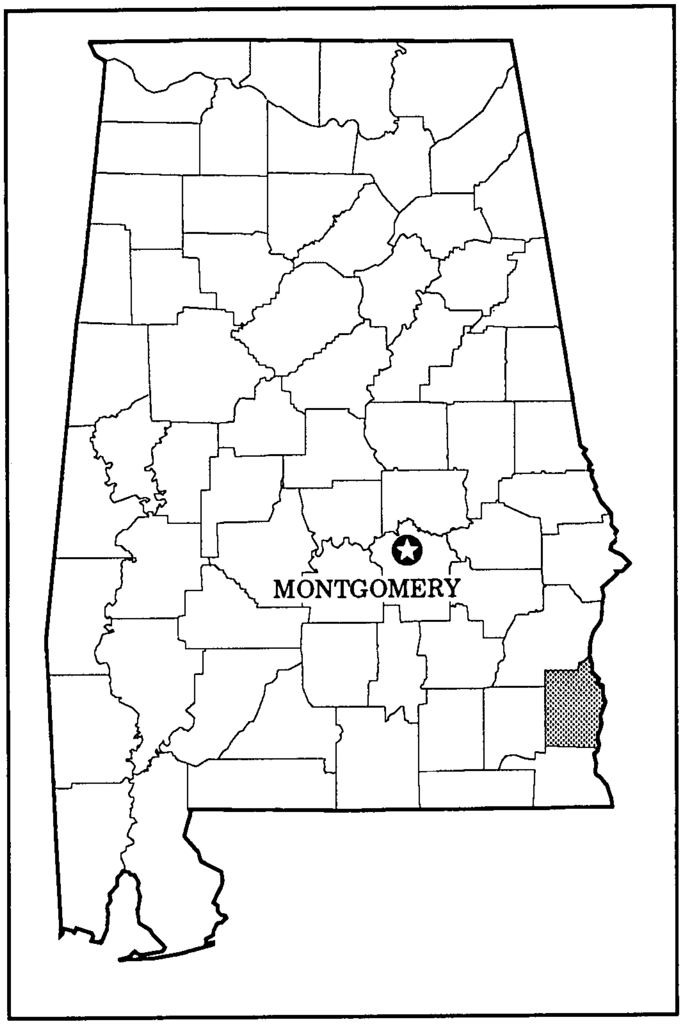

Figure 1.—Location of Henry County in Alabama.

Lands were cleared along the river, and a mill for grinding corn was brought to the county in 1818. A cotton gin was set up in about 1822, and cotton soon became an important crop in the county. Cotton and corn were the major cash crops for many years. The Civil War slowed agricultural and economic development for several years, and some areas in the southern part of the county were not cleared for agricultural use until 1925. Insects, especially the cotton boll weevil, slowed the expansion of cotton as a major crop until the development of effective pesticides. Currently, the main cultivated crops are cotton, corn, and peanuts.

In recent years, the acreage of cultivated crops has gradually decreased and the acreage of pine woodland has increased. Timber and associated products are an important part of the agricultural resources of Henry County. Large acreages of slash pine and loblolly pine are in the northeastern part of the county *(11)*.

Geology

Henry County lies within the East Gulf Coastal Plain section of the Coastal Plain physiographic province. The underlying geologic materials are sedimentary rocks that dip gently southward at a rate of 10 to 45 feet per mile. The resistant beds form cuestas, which result in a series of easterly trending hills.

The main geological formations that outcrop in Henry County are the Residuum and Lisbon Formations in the southern part of the county and the Tallahatta, Hatchetigbee, Tuscahoma, Nanafalia, Clayton, and Providence Sands Formations in the northern part *(13)*.

The geology of an area exerts considerable influence on land use. Rock type and geologic structure influence topography, soil formation, and water supply.

Climate

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

Henry County has long, hot summers because moist tropical air from the Gulf of Mexico persistently covers the area. Winters are cool and fairly short. A rare cold wave lingers for 1 or 2 days. Precipitation is fairly heavy throughout the year, and prolonged droughts are rare. Summer precipitation, mainly in the form of afternoon thunderstorms, is adequate for the growth of all crops.

Severe local storms, including tornadoes, strike occasionally in or near the county. They are short in duration and cause variable and spotty damage. Every few years in summer or fall, a tropical depression or a remnant of a hurricane that has moved inland causes extremely heavy rains for 1 to 3 days.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Headland in the period 1950 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 50 degrees F and the average daily minimum temperature is 38 degrees. The lowest temperature on record, which occurred at Headland on December 13, 1962, is 5 degrees. In summer, the average temperature is 80 degrees and the average daily maximum temperature is 91 degrees. The highest recorded temperature, which occurred at Headland on June 27, 1952, is 104 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 54 inches. Of this, 28 inches, or 52 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 22 inches. The heaviest 1-day rainfall during the period of record was 7.3 inches at Headland on April 10, 1975. Thunderstorms occur on about 61 days each year, and most occur in summer.

Snowfall is rare. In 98 percent of the winters, there is no measurable snowfall. In 2 percent, the snowfall, usually of short duration, is more than 1 inch.

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 65 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 9 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; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material 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, landforms, relief, climate, and 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 a considerable degree of 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, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. 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 interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

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

Soil Survey Procedures

The general procedures followed in making this survey are described in the "National Soil Survey Handbook" of the Natural Resources Conservation Service. The soil survey of Henry County, published in 1909 *(12)*, and the "Generalized Geologic Map of Henry County, Alabama" *(13)* were among the references used.

Before the fieldwork began, preliminary boundaries of landforms were plotted stereoscopically on high-altitude aerial photographs that were flown in 1977. United States Geological Survey topographic maps were studied to relate land and image features.

Traverses were made on foot and by vehicle, mostly at intervals of about one-fourth mile. They were made at closer intervals in areas of high variability. Soil examinations along the traverses were made 50, 100, and 300 feet apart, depending on the landscape and the soil patterns *(14)*. Observations of landforms, uprooted trees, vegetation, roadbanks, and animal burrows were made continuously without regard to spacing. Soil boundaries were determined on the basis of soil examinations, observations, and photo interpretation. The soil material was examined with the aid of a spade, a hand auger, or a truck probe to a depth of about 5 feet. The pedons described as typical were observed and studied in excavations.

Samples for chemical and physical analyses and engineering test data were taken from the site of the typical pedon of some of the major soils in the survey area. The analyses were made by the Agronomy and Soils Clay Mineralogy Laboratory at Auburn University in Auburn, Alabama, and by the State of Alabama Highway Department in Montgomery, Alabama. Some of the results of the analyses are published in this soil survey. Unpublished analyses and the laboratory procedures used can be obtained from the laboratory.

High-altitude aerial photography base maps were used to map soil and surface drainage in the field. Cultural features were transferred from the U.S. Geological Survey 7.5-minute topographic maps and were recorded from visual observations. Soils, drainage patterns, and cultural features recorded on the base maps were then transferred to half-tone film positives by cartographic technicians before the final map-finishing process.

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 two or three 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, it 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 another but in a different pattern.

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

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or 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.

The soils in the survey area vary widely in their suitability for major land uses. Table 4 shows the extent of the map units shown on the general soil map. It also shows the suitability of each for major land uses and the soil properties that limit use.

Each map unit is rated for *cultivated crops, pasture and hay, woodland,* and *urban uses*. Cultivated crops are those grown extensively in the survey area. Pasture and hay refer to improved, locally grown grasses and legumes. Woodland refers to areas of native or introduced trees. Urban uses include residential, commercial, and industrial developments.

The boundaries of the general soil map units in Henry County were matched, where possible, with those of the previously completed surveys of Dale and Houston Counties, Alabama, and Early County, Georgia. In a few areas, however, the lines do not join and the names of the map units differ. These differences result mainly because of changes in soil series concepts, differences in map unit design, and changes in soil patterns near survey area boundaries.

The general soil map units in this survey have been grouped into four general landscapes. Descriptions of each of the broad groups and the map units in each group follow the broad group title.

Dominantly Level and Nearly Level, Loamy Soils; on Flood Plains and Low Terraces

This group of map units consists of well drained, somewhat poorly drained, and poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil. The two map units in this group make up about 6 percent of the county. Most areas that seldom flood and some areas that flood occasionally are used for crops or pasture. Most areas that flood frequently and some areas that flood occasionally are used as woodland. Seasonal wetness and the hazard of flooding are the main limitations for most uses.

1. Kolomoki-Riverview-Meggett

Nearly level to gently sloping, well drained and poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil; formed in clayey and loamy alluvial sediments

This map unit consists of soils on low stream terraces and the flood plain of the Chattahoochee River. Numerous old channel scars and small depressions are scattered throughout the map unit. The soils in this unit are subject to rare, occasional, or frequent flooding. Slopes are mainly less than 2 percent, but they range from 0 to 5 percent. The natural vegetation consists of bottom land hardwood forest in the lower areas on the landscape and mixed hardwoods and pine in the higher parts.

This unit makes up about 2 percent of the county. It is about 50 percent Kolomoki soils, 20 percent Riverview soils, 15 percent Meggett soils, and 15 percent soils of minor extent.

The well drained Kolomoki soils are on low terraces. They are subject to rare flooding. The surface layer is dark yellowish brown fine sandy loam. The subsoil is yellowish red sandy clay loam and red clay in the upper part and yellowish red sandy clay loam in the lower part. The substratum is yellowish red sandy loam.

The well drained Riverview soils are the higher parts of the natural levee adjacent to the Chattahoochee River. They are subject to occasional flooding. The surface layer is dark brown fine sandy loam. The subsoil is dark yellowish brown loam in the upper part; dark yellowish brown sandy clay loam in the middle part; and brown and strong brown sandy clay loam in the lower part.

The poorly drained Meggett soils are in flat to depressional areas on the lower parts of the flood plain. They are subject to frequent flooding. The surface layer is dark gray loam. The subsurface layer is gray loam. The subsoil is gray clay loam and clay that has mottles in shades of yellow and brown.

Of minor extent in this map unit are Albany, Bigbee, and Bonneau soils. Albany and Bonneau soils are on the higher parts of terraces and are not subject to flooding. They have thick, sandy surface and subsurface layers that overlie a loamy subsoil. Bigbee soils are in landscape positions similar to those of the Riverview soils. They are sandy throughout the profile.

About two-thirds of this unit is used for cultivated crops, pasture, and hay. The main cultivated crops are peanuts, corn, soybeans, and grain sorghum. Areas of hardwood forest are scattered throughout the map unit, mainly in areas of the poorly drained Meggett soils and in narrow strips adjacent to the Chattahoochee River.

The soils in this map unit that are rarely flooded are well suited to cultivated crops, pasture, and hay. The soils that are occasionally flooded are suited to cultivated crops and are well suited to pasture and hay. Flooding limits the choice of crops and pasture plants, and it can delay or prevent planting or harvesting in some years. The soils that are frequently flooded are poorly suited to these uses.

The soils in this map unit are well suited to use as woodland. The potential productivity of loblolly pine, slash pine, and hardwoods is high to very high. Common trees include water oak, yellow-poplar, American sycamore, slash pine, and loblolly pine. The wetness and frequent flooding are limitations for the use of equipment in areas of Meggett soils in the lower parts of the landscape.

The soils in this map unit are poorly suited to most urban uses. The flooding is the main limitation. Wetness is an additional limitation in areas of Meggett soils.

2. Mantachie-Muckalee-Yonges

Level and nearly level, somewhat poorly drained and poorly drained soils that have a loamy surface layer and a loamy and sandy subsoil; formed in loamy and sandy alluvial sediments

This map unit consists of soils on the flood plains of the Choctawhatchee River, Abbie Creek, and other major streams throughout the county. Areas are long and narrow in shape. Numerous shallow swales and sloughs are scattered throughout the map unit. The soils are frequently flooded and have a seasonal high water table. Some of the lower-lying areas are ponded for long periods during most years. Slopes range from 0 to 2 percent. The natural vegetation consists of bottom land hardwood forest.

This unit makes up about 4 percent of the county. It is about 35 percent Mantachie soils, 35 percent Muckalee soils, 15 percent Yonges soils, and 15 percent soils of minor extent.

The somewhat poorly drained Mantachie soils are in intermediate positions on the flood plain. The surface layer is dark grayish brown loam. The subsoil is yellowish brown sandy clay loam in the upper part and light gray sandy clay loam in the lower part.

The poorly drained Muckalee soils are in concave swales and sloughs in lower areas on the flood plain. The surface layer is grayish brown sandy loam. The substratum is grayish brown loamy sand in the upper part; dark grayish brown sandy loam in the middle part; and dark gray loamy sand in the lower part.

Yonges soils are in slightly higher areas on the flood plain and on low terraces. The surface layer is very dark grayish brown fine sandy loam. The subsurface layer is light brownish gray fine sandy loam. The subsoil is light brownish gray sandy clay loam that has mottles in shades of yellow and brown. The substratum is light brownish gray sandy clay in the upper part and stratified gray sandy clay loam and loamy sand in the lower part.

Of minor extent in this map unit are Bigbee, Bonneau, Kolomoki, and Riverview soils. Bigbee and Riverview soils are on the high parts of natural levees. Bigbee soils are sandy throughout the profile. Riverview soils are well drained. Bonneau and Kolomoki soils are on low terraces. Bonneau soils have thick, sandy surface and subsurface layers. The well drained Kolomoki soils have a clayey subsoil.

Most areas of this unit are used as woodland. A few small areas have been cleared and are used for pasture, hay, and cultivated crops.

The soils in this map unit are poorly suited to cultivated crops, pasture, and hay. The choice of crops and pasture plants and the period of grazing are limited by wetness and flooding.

This map unit is suited to the production of hardwood and pine trees. Common trees include water oak, willow oak, sweetgum, slash pine, and loblolly pine. Frequent flooding and wetness limit the use of equipment and increase the seedling mortality rate.

The soils in this map unit are poorly suited to most urban uses because of the frequent flooding and wetness.

Dominantly Nearly Level to Gently Sloping Loamy and Sandy Soils; on Uplands

This group of map units consists of well drained and somewhat excessively drained soils that have a loamy or sandy surface layer and a loamy or clayey subsoil. The four map units in this group make up about 26 percent of the county. About one-half of the acreage has been cleared and is used for cultivated crops, pasture, and hay. The remaining acreage is used as woodland consisting mainly of loblolly pine, slash pine, and mixed hardwoods. Low fertility, droughtiness, and the hazard of erosion are the main limitations for agricultural uses. Droughtiness and slow permeability are the main limitations for urban uses.

3. Dothan-Bonifay-Fuquay

Nearly level to gently sloping, well drained soils that have a loamy or sandy surface layer and a loamy subsoil; formed in loamy and sandy sediments

The landscape generally has slight to moderate relief in areas of this map unit. It consists of gently rolling uplands that have broad, convex ridgetops, gentle side slopes, and broad flats. It is dissected by a well-defined, branching drainage system. Slopes are long and smooth, and they range from 0 to 8 percent.

This map unit makes up about 5 percent of the county. It is about 30 percent Dothan and similar soils, 25 percent Bonifay soils, 20 percent Fuquay soils, and 25 percent soils of minor extent.

Dothan soils are on nearly level, broad ridgetops and gently sloping side slopes. The surface layer is brown fine sandy loam. The subsoil is yellowish brown sandy clay loam in the upper part and is mottled light yellowish brown, yellowish brown, and yellowish red clay loam and sandy clay loam in the lower part.

Bonifay soils are on nearly level to gently sloping broad ridgetops. The surface layer is brown loamy fine sand. The subsurface layer is brownish yellow and yellowish brown loamy fine sand. The subsoil is light yellowish brown sandy clay loam that has mottles in shades of red and brown.

Fuquay soils are on nearly level to gently sloping, broad ridgetops and on the upper parts of side slopes. The surface layer is brown loamy sand. The subsurface layer is brownish yellow loamy sand. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy clay loam in the middle part; and mottled pale brown, brownish yellow, and yellowish red sandy clay loam in the lower part.

Of minor extent in this map unit are the Mantachie, Muckalee, Norfolk, Orangeburg, Troup, and Tumbleton soils. The somewhat poorly drained Mantachie soils and the poorly drained Muckalee soils are in narrow drainageways. Norfolk soils are in landscape positions similar to those of the Dothan soils. They do not have significant accumulations of plinthite in the lower part of the subsoil. Orangeburg and Troup soils are on narrow, convex ridgetops. Orangeburg soils have a reddish subsoil and do not have thick, sandy surface and subsurface layers. Troup soils are similar to Bonifay soils but do not have plinthite in the lower part of the subsoil. Tumbleton soils are on side slopes in lower landscape positions than the Dothan, Bonifay, and Fuquay soils. They have a clayey subsoil.

Most areas of this map unit are used for cultivated crops, pasture, or hay. The main cultivated crops are peanuts, corn, soybeans, and grain sorghum. The forested areas are mainly on side slopes and flood plains; however, some of the broad ridgetops have been planted to loblolly pine and slash pine.

The soils in this map unit are well suited to cultivated crops, pasture, and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, grassed waterways, contour farming, and cover crops are management practices that minimize soil losses from erosion.

The soils in this map unit are well suited to use as woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, hickory, and post oak. The sandy texture of the Bonifay and Fuquay soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Bonifay and Fuquay soils.

The soils in this map unit are suited to most urban uses. The sandy texture and the moderate to slow permeability are limitations for some uses.

4. Tumbleton-Fuquay-Orangeburg

Nearly level to gently sloping, well drained soils that have a loamy or sandy surface layer and a clayey or loamy subsoil; formed in clayey, sandy, and loamy sediments

The landcape generally has slight to moderate relief in areas of this map unit. It consists of gently rolling uplands that have narrow to broad, convex ridgetops, gentle side slopes, and broad flats. The heads of shallow drainageways lead from areas of this map unit to narrow flood plains along intermittent streams. Slopes range from 0 to 8 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 3 percent of the county. It is about 35 percent Tumbleton soils, 25 percent Fuquay soils, 20 percent Orangeburg soils, and 20 percent soils of minor extent.

Tumbleton soils are on narrow ridgetops and on side slopes. The surface layer is dark brown sandy loam. The subsoil is yellowish brown sandy clay in the upper part and brownish yellow and yellowish brown clay in the lower part. The substratum is stratified yellow loamy sand and yellowish brown clay.

Fuquay soils are on the broad ridgetops and upper parts of side slopes. The surface layer is brown loamy sand. The subsurface layer is brownish yellow loamy sand. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy clay loam in the middle part; and mottled pale brown, brownish yellow, and yellowish red sandy clay loam in the lower part.

Orangeburg soils are on narrow to broad, high ridgetops. The surface layer is dark yellowish brown sandy loam. The subsoil is yellowish red and red sandy clay loam.

Of minor extent in this map unit are Greenville, Muckalee, Nankin, Norfolk, and Red Bay soils. Greenville and Red Bay soils are on nearly level, broad, flat areas. Greenville soils have a dark red, clayey subsoil. Red Bay soils have a dark red, loamy subsoil. The poorly drained Muckalee soils are in narrow drainageways. Nankin soils are in landscape positions similar to those of the Tumbleton soils. They have a yellowish red subsoil. Norfolk soils are in landscape positions similar to those of the Fuquay soils. They do not have thick, sandy surface and subsurface layers.

Most areas of this map unit are used for cultivated crops, pasture, or hay or as sites for homes. The main cultivated crops are corn, peanuts, soybeans, and grain sorghum. Most of the forested areas are on narrow flood plains; however, some of the broad ridgetops have been planted to loblolly pine and slash pine.

The soils in this map unit are suited to cultivated crops and are well suited to pasture and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are well suited as woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. Tumbleton and Orangeburg soils have few limitations for use as woodland. The sandy texture of the Lucy soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Lucy soils.

The soils of this map unit are suited to most urban uses. The slow permeability in the Tumbleton and Fuquay soils is a limitation for some uses.

5. Dothan-Orangeburg-Greenville

Nearly level to gently sloping, well drained soils that have a loamy surface layer and a loamy or clayey subsoil; formed in loamy and clayey sediments

The landscape generally has slight to moderate relief in areas of this map unit. It consists of gently rolling uplands that have broad, convex ridgetops, gentle side slopes, and broad flats. It is dissected by a well-defined, branching drainage system. Slopes are long and smooth, and they range from 0 to 8 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 12 percent of the county. It is about 35 percent Dothan and similar soils, 30 percent Orangeburg soils, 10 percent Greenville soils, and 25 percent soils of minor extent.

Dothan soils are generally on the high parts of broad ridgetops and on gentle side slopes. The surface layer is brown fine sandy loam. The subsoil is yellowish brown sandy clay loam in the upper part and is mottled light yellowish brown, yellowish brown, and yellowish red clay loam and sandy clay loam in the lower part.

Orangeburg soils are on slightly higher, more convex parts of broad ridgetops and on the upper parts of side slopes. The surface layer is dark yellowish brown sandy loam. The subsoil is yellowish red and red sandy clay loam.

Greenville soils are generally on nearly level, broad flats and on gently sloping side slopes. The surface layer is dark reddish brown fine sandy loam. The subsoil is dark red sandy clay.

Of minor extent in this map unit are Fuquay, Mantachie, Muckalee, Nankin, and Tumbleton soils. Fuquay soils are generally on the lower parts of broad ridgetops. They have thick, sandy surface and subsurface layers. The somewhat poorly drained Mantachie soils and the poorly drained Muckalee soils are in narrow drainageways. Nankin and Tumbleton soils are on side slopes at lower elevations than the Dothan, Orangeburg, or Greenville soils. They have a yellowish red or yellowish brown, clayey subsoil.

Most areas in this map unit are used for cultivated crops. Corn, peanuts, soybeans, grain sorghum, and wheat are the main crops. Scattered areas, mainly on narrow ridges and side slopes, are used for pasture or hay. Most of the forested areas in this unit are on the

Figure 2.—An area of the Dothan-Orangeburg-Greenville general soil map unit, which is well suited to cropland. These soils produce high yields of wheat, peanuts, and corn.

strongly sloping side slopes along drainageways and on narrow flood plains.

The soils in this map unit are well suited to cultivated crops, pasture, and hay (fig. 2). Low fertility is the main limitation. Erosion is a hazard if the soils are tilled. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are well suited to woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, post oak, and hickory. The soils in this unit have few limitations for use as woodland.

The soils in this map unit are well suited to most urban uses. The moderately slow permeability is a limitation for some uses.

6. Dothan-Troup-Red Bay

Nearly level to gently sloping, well drained and somewhat excessively drained soils that have a loamy or sandy surface layer and a loamy subsoil; formed in loamy and sandy sediments

The landscape generally has slight to moderate relief in areas of this map unit. It consists of gently rolling uplands that have narrow to broad, convex ridgetops and gently sloping side slopes. It is dissected by a well-defined, branching drainage system. Slopes are long and smooth, and they range from 0 to 8 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 6 percent of the county. It is about 30 percent Dothan and similar soils, 25 percent Troup soils, 15 percent Red Bay soils, and 30 percent soils of minor extent.

The well drained Dothan soils are on the high parts of broad ridgetops. They are nearly level to gently sloping. The surface layer is brown fine sandy loam. The subsoil is yellowish brown sandy clay loam in the upper part and is mottled light yellowish brown, yellowish brown, and yellowish red clay loam and sandy clay loam in the lower part.

The somewhat excessively drained Troup soils are on the lower parts of ridgetops and on side slopes. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

The well drained Red Bay soils are on higher, convex ridgetops. The surface layer is reddish brown fine sandy loam. The subsoil is dark reddish brown and dark red sandy clay loam.

Of minor extent in this map unit are Faceville, Fuquay, Muckalee, Nankin, Norfolk, and Orangeburg soils. Faceville and Nankin soils are on side slopes at lower elevations than the Dothan, Troup, or Red Bay soils. They have a clayey subsoil. Fuquay and Norfolk soils are in landscape positions similar to those of the Dothan soils. Fuquay soils have thick, sandy surface and subsurface layers. Norfolk soils have a yellowish brown subsoil. They do not have significant accumulations of plinthite in the subsoil. The poorly drained Muckalee soils are in narrow drainageways. Orangeburg soils are in landscape positions similar to those of the Red Bay soils. They do not have a dark red subsoil.

Most areas in this map unit are used for cultivated crops. Corn, peanuts, soybeans, grain sorghum, and wheat are the main crops. Scattered areas, mainly on narrow ridges and side slopes, are used for pasture or hay. Most of the forested areas are on the strongly sloping side slopes along drainageways and on narrow flood plains.

The soils in this map unit are well suited to cultivated crops, hay, and pasture. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are well suited to woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. Dothan and Red Bay soils have few limitations for use as woodland. The sandy texture of the Troup soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Troup soils.

The soils in this map unit are well suited to most urban uses. The moderate to moderately slow permeability is a limitation for some uses.

Dominantly Nearly Level to Strongly Sloping Loamy and Sandy Soils; on Uplands

This group of map units consists of well drained, moderately well drained, and somewhat excessively drained soils that have a loamy or sandy surface layer and a loamy or clayey subsoil. The five map units in this group make up about 32 percent of the county. About two-thirds of the acreage has been cleared and is used for cultivated crops, pasture, or hay or as sites for homes. The remaining acreage is used as woodland consisting mainly of loblolly pine, slash pine, and mixed hardwoods. Low fertility, droughtiness, and the hazard of erosion are the main limitations for agricultural uses. Droughtiness, the sandy texture, and slow permeability are the main limitations for urban uses.

7. Troup-Fuquay-Bonifay

Nearly level to strongly sloping, somewhat excessively drained and well drained soils that have thick sandy surface and subsurface layers and a loamy subsoil; formed in sandy and loamy sediments

This map unit consists of soils on broad, nearly level to gently sloping ridgetops and gently sloping to strongly sloping side slopes. Narrow flood plains border deeply incised, perennial and intermittent streams. Slopes range from 0 to 12 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 2 percent of the county. It is about 30 percent Troup soils, 25 percent Fuquay soils, 20 percent Bonifay soils, and 25 percent soils of minor extent.

The somewhat excessively drained Troup soils are on nearly level to gently sloping, narrow ridgetops and on strongly sloping side slopes. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

The well drained Fuquay soils are on nearly level to gently sloping, broad ridgetops and on the upper parts of side slopes. The surface layer is brown loamy sand. The subsurface layer is brownish yellow loamy sand. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy clay loam in the middle part; and mottled pale brown, brownish yellow, and yellowish red sandy clay loam in the lower part.

The well drained Bonifay soils are on nearly level to gently sloping broad ridgetops. The surface layer is brown loamy fine sand. The subsurface layer is brownish yellow and yellowish brown loamy fine sand. The subsoil is light yellowish brown sandy clay loam that has mottles in shades of red and brown.

Of minor extent in this map unit are Dothan, Muckalee, Nankin, Norfolk, and Tumbleton soils. Dothan and Norfolk soils are in slightly higher positions than the Fuquay and Bonifay soils. They do not have thick, sandy surface and subsurface layers. The poorly drained Muckalee soils are in narrow drainageways. Nankin and Tumbleton soils are on side slopes at lower elevations than the Troup, Fuquay, and Bonifay soils. They have a clayey subsoil. They do not have thick, sandy surface and subsurface layers.

About two-thirds of this map unit is used for cultivated crops, pasture, or hay. The main crops are corn, peanuts, soybeans, and grain sorghum. Forested areas in this unit are mainly on side slopes; however, some of the broad ridgetops have been planted to loblolly pine and slash pine.

The soils in this map unit are suited to cultivated crops, pasture, and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, grassed waterways, contour farming, and cover crops are management practices that minimize soil losses from erosion.

The soils in this map unit are well suited to use as woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. The sandy texture hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate. Erosion is a hazard along logging roads, log landings, and skid trails.

The soils in this map unit are suited to most urban uses. The slope is a limitation in some areas. The sandy texture and the moderate to slow permeability are limitations for some uses.

8. Tumbleton-Fuquay-Dothan

Nearly level to strongly sloping, well drained soils that have a loamy or sandy surface layer and a clayey or loamy subsoil; formed in clayey, sandy, and loamy sediments

The landscape generally has varied relief in areas of this map unit. It is dominated by narrow to broad, gently sloping ridgetops and strongly sloping side slopes on uplands. Narrow flood plains border incised, mostly intermittent streams. The landscape is dissected by a well-defined, branching drainage system. Slopes are generally short and complex, and they range from 0 to 12 percent.

This map unit makes up about 3 percent of the county. It is about 35 percent Tumbleton soils, 25 percent Fuquay soils, 15 percent Dothan soils, and 25 percent soils of minor extent.

Tumbleton soils are on gently sloping, narrow to broad ridgetops and gently sloping to strongly sloping side slopes. The surface layer is dark brown sandy loam. The subsoil is yellowish brown sandy clay in the upper part and brownish yellow and yellowish brown clay in the lower part. The substratum is stratified yellow loamy sand and yellowish brown clay.

Fuquay soils are on the lower parts of ridgetops. The surface layer is brown loamy sand. The subsurface layer is brownish yellow loamy sand. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy clay loam in the middle part; and mottled pale brown, brownish yellow, and yellowish red sandy clay loam in the lower part.

Dothan soils are on high ridgetops. The surface layer is brown fine sandy loam. The subsoil is yellowish brown sandy clay loam in the upper part and mottled light yellowish brown, yellowish brown, and yellowish red clay loam and sandy clay loam in the lower part.

Of minor extent in this map unit are Bonifay, Muckalee, Nankin, Orangeburg, and Troup soils. Bonifay and Troup soils are on the lower parts of ridges. They have a sandy texture to a depth of 40 inches or more. The poorly drained Muckalee soils are in narrow drainageways. Nankin soils are in landscape positions similar to those of the Tumbleton soils. They have a yellowish red, clayey subsoil. Orangeburg soils are on high, convex ridgetops. They have a yellowish red, loamy subsoil.

Most areas of this unit are used as woodland. Some areas, mostly on high ridgetops, are used for cultivated crops, pasture, or hay or as sites for homes.

The soils in this map unit are suited to cultivated crops and are well suited to pasture and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, grassed waterways, contour farming, and cover crops are management practices that minimize soil losses from erosion.

The soils in this map unit are well suited to use as woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. Tumbleton and Dothan soils have few limitations for use as woodland. The sandy texture of the Fuquay soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Fuquay soils. Erosion is a hazard along logging roads, log landings, and skid trails.

The soils in this map unit are suited to most urban uses. The slope is a limitation in some areas. The moderately slow to slow permeability is a limitation for some uses.

9. Faceville-Nankin-Conecuh

Nearly level to strongly sloping, well drained and moderately well drained soils that have a loamy surface layer and a clayey subsoil; formed in clayey sediments

The landscape generally has varied relief in areas of this map unit. It is dominated by narrow to broad, nearly level to gently sloping ridgetops and strongly sloping side slopes on uplands. Narrow flood plains border incised, intermittent and perennial streams. The landscape is dissected by a well-defined, branching drainage system. Slopes range from 0 to 12 percent. The natural vegetation consists of pine and mixed hardwoods.

This map unit makes up about 9 percent of the county. It is about 35 percent Faceville soils, 20 percent Nankin soils, 15 percent Conecuh soils, and 30 percent soils of minor extent.

The well drained Faceville soils are on gently sloping, narrow to broad ridgetops. The surface layer is reddish brown sandy loam. The subsoil is red sandy clay loam in the upper part, red sandy clay in the middle part, and dark red clay in the lower part.

The well drained Nankin soils are on gently sloping, high parts of ridgetops and on gently sloping to strongly sloping side slopes. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

The moderately well drained Conecuh soils are on the lower parts of ridges, on side slopes, and on toe slopes. They are gently sloping to strongly sloping. The surface layer is reddish brown and dark brown sandy clay loam. The subsoil is red clay that has gray mottles in the upper part and is light brownish gray clay that has red mottles in the lower part. The substratum is light gray clayey shale.

Of minor extent in this map unit are Lucy, Mantachie, Muckalee, Red Bay, and Troup soils. Lucy and Troup soils are on the high parts of ridgetops and on side slopes. They have thick, sandy surface and subsurface layers. The somewhat poorly drained Mantachie soils and the poorly drained Muckalee soils are in narrow drainageways. Red Bay soils are on the high parts of ridgetops. They have a dark red, loamy subsoil.

About one-half of this map unit is used for cultivated crops, pasture, or hay. Soybeans, peanuts, grain sorghum, and corn are the main crops. Most of the forested areas are on narrow ridgetops and strongly sloping side slopes along drainageways and on flood plains; however, some of the broad ridgetops have been planted to loblolly pine and slash pine.

The soils in this map unit are suited to cultivated crops and are well suited to hay and pasture. Low fertility and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that are necessary to maintain productivity and control erosion.

The soils in this map unit are well suited to woodland. The potential productivity of loblolly pine and slash pine is high. Common trees include sweetgum, water oak, loblolly pine, longleaf pine, and shortleaf pine. The soils in this unit have few limitations for use as woodland; however, erosion is a hazard along logging roads, landings, and skid trails.

The soils in this map unit are suited to most urban uses. The main limitations are the very slow permeability and high shrink-swell potential in Conecuh soils. In some areas, the slope is a limitation for some uses.

10. Troup-Nankin-Orangeburg

Nearly level to strongly sloping, somewhat excessively drained and well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; formed in sandy, clayey, and loamy sediments

The landscape generally has slight to moderate relief in areas of this map unit. It is dominated by broad, nearly level to gently sloping ridgetops and gently sloping to strongly sloping side slopes on uplands. Narrow flood plains border incised, mostly intermittent streams. The landscape is dissected by a well-defined, branching drainage system. Slopes are generally long and smooth, and they range from 0 to 12 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 16 percent of the county. It is about 45 percent Troup soils, 20 percent Nankin soils, 15 percent Orangeburg soils, and 20 percent soils of minor extent.

The somewhat excessively drained Troup soils are on high, broad ridgetops and on the upper parts of side slopes. They are nearly level to strongly sloping. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

The well drained Nankin soils are on the lower parts of ridges and on side slopes. They are gently sloping to

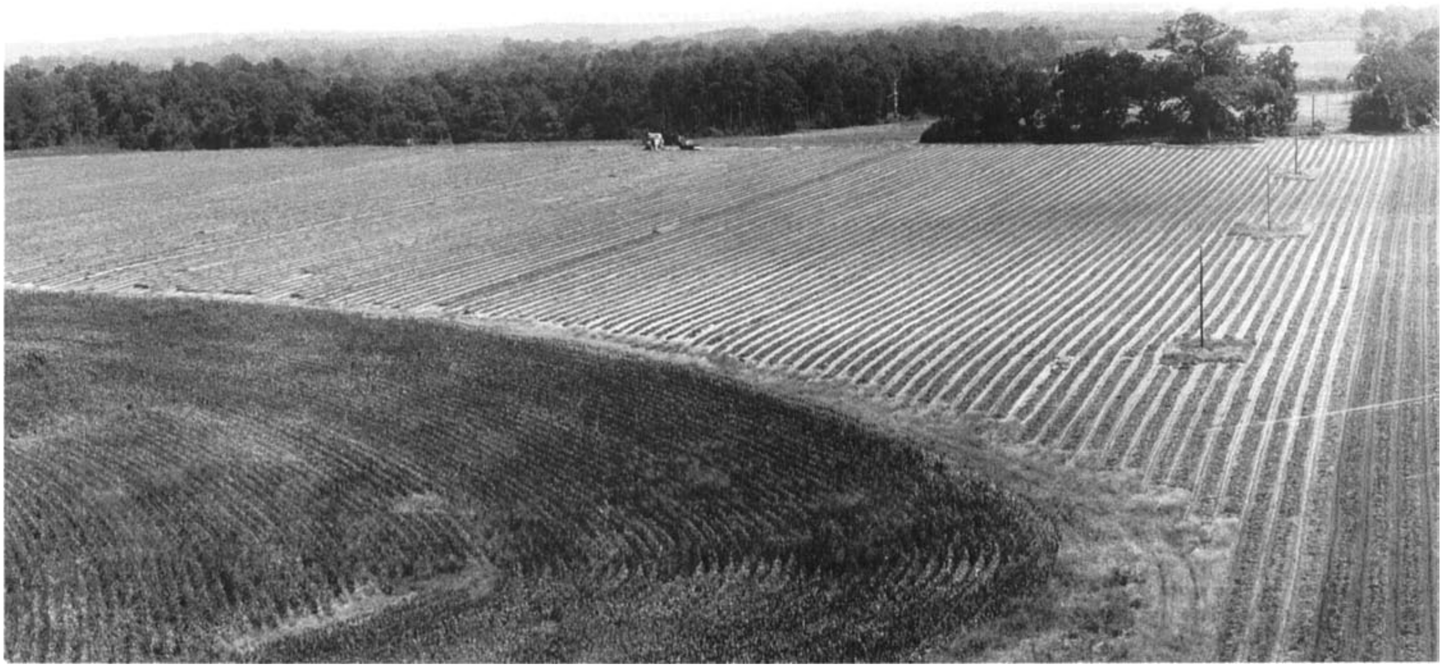

Figure 3.—A typical area of the Troup-Nankin-Orangeburg general soil map unit. On the nearly level ridgetops, peanuts are being grown in areas of the loamy Orangeburg soils. Grain sorghum has been planted along the contour of the gently sloping side slopes.

strongly sloping. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

The well drained Orangeburg soils are on broad ridgetops. They are nearly level to gently sloping. The surface layer is dark yellowish brown sandy loam. The subsoil is yellowish red and red sandy clay loam.

Of minor extent in this map unit are Dothan, Muckalee, Norfolk, Red Bay, and Tumbleton soils. Dothan and Norfolk soils are on the lower parts of broad ridgetops. They have a yellowish brown, loamy subsoil. The poorly drained Muckalee soils are in narrow drainageways. Red Bay soils are in landscape positions similar to those of the Orangeburg soils. They have a dark red, loamy subsoil. Tumbleton soils are in landscape positions similar to those of the Nankin soils. They have a yellowish brown, clayey subsoil.

About three-fourths of this map unit is used for cultivated crops, pasture, or hay. Peanuts, corn, grain sorghum, and soybeans are the main crops (fig. 3). Most of the forested areas are on the strongly sloping side slopes along drainageways and on flood plains; however, some of the broad ridgetops have been planted to loblolly pine and slash pine.

The soils in this map unit are suited to cultivated crops and are well suited to pasture and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Crop rotation, terraces, grassed waterways, cover crops, conservation tillage, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are well suited to woodland. The potential productivity of loblolly pine and slash pine is moderately high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. Nankin and Orangeburg soils have few limitations for use as woodland. The sandy texture of Troup soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Troup soils. Erosion is a hazard along logging roads, landings, and skid trails.

The soils in this map unit are suited to most urban uses. The sandy texture of Troup soils and the moderate and moderately slow permeability are limitations for some uses.

Dominantly Gently Sloping to Very Steep Sandy and Loamy Soils; on Uplands

This group of map units consists of well drained and somewhat excessively drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil. The three map units in this group make up about 36 percent of the county. About eighty percent of the acreage is used as woodland consisting mainly of loblolly pine and mixed hardwoods. The remaining acreage is used for cultivated crops, pasture, or hay or as sites for homes. Slope, low fertility, droughtiness, and the hazard of erosion are the main limitations for agricultural uses. Slope, droughtiness, and the moderately slow to slow permeability are limitations for most urban uses.

11. Troup-Nankin-Fuquay

Nearly level to strongly sloping, somewhat excessively drained and well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; formed in sandy, clayey, and loamy sediments

The landscape generally has slight to moderate relief in areas of this map unit. It is dominated by narrow to broad, nearly level to gently sloping ridgetops and gently sloping to strongly sloping side slopes on uplands. Narrow flood plains border incised, intermittent and perennial streams. The landscape is dissected by a well-defined, branching drainage system. Slopes are generally long and smooth, and they range from 0 to 12 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 2 percent of the county. It is about 35 percent Troup soils, 30 percent Nankin and similar soils, 20 percent Fuquay soils, and 15 percent soils of minor extent.

The somewhat excessively drained Troup soils are on high, broad ridgetops and on the upper parts of side slopes. They are nearly level to strongly sloping. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

The well drained Nankin soils are on the lower parts of narrow ridges and on side slopes. They are gently sloping to strongly sloping. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

The well drained Fuquay soils are on the low parts of broad ridgetops. They are nearly level to gently sloping. The surface layer is brown loamy sand. The subsurface layer is brownish yellow loamy sand. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy clay loam in the middle part; and mottled pale brown, brownish yellow, and yellowish red sandy clay loam in the lower part.

Of minor extent in this map unit are Dothan, Faceville, Muckalee, Red Bay, and Tumbleton soils. Dothan and Red Bay soils are on the higher parts of broad ridgetops. Dothan soils have a yellowish brown loamy subsoil. Red Bay soils have a dark red loamy subsoil. Faceville soils are in landscape positions similar to those of the Nankin soils. They have a thicker solum than the Nankin soils and do not have thick, sandy surface and subsurface layers. The poorly drained Muckalee soils are in narrow drainageways.

Most areas of this map unit are used for cultivated crops, pasture, or hay. Peanuts, corn, grain sorghum, and soybeans are the main crops. Most of the forested areas are on the strongly sloping side slopes along drainageways and on flood plains.

The soils in this map unit are suited to cultivated crops and are well suited to pasture and hay. Low fertility, droughtiness, and the hazard of erosion are the main limitations. Applications of lime and fertilizer are needed for crops and pasture plants. Crop rotation, conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are well suited to woodland. The potential productivity of loblolly pine and slash pine is moderately high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. Nankin soils have few limitations for use as woodland. The sandy texture of Troup and Fuquay soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Troup and Fuquay soils. Erosion is a hazard along logging roads, landings, and skid trails.

The soils in this map unit are suited to most urban uses. The sandy texture of the Troup and Fuquay soils and the moderate to slow permeability are the main limitations.

12. Lucy-Nankin-Troup

Gently sloping to very steep, well drained and somewhat poorly drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; formed in sandy, clayey, and loamy sediments

The landscape generally has prominent relief in areas of this map unit. It is dominated by narrow, gently sloping ridgetops that break into very steep side slopes. It is deeply incised by a well-defined, branching drainage system. Slopes are short and complex, and they range from 2 to 60 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 6 percent of the county. It is about 35 percent Lucy soils, 30 percent Nankin and similar soils, 15 percent Troup soils, and 20 percent soils of minor extent.

The well drained Lucy soils are on the high parts of ridges and on the upper parts of side slopes. The surface layer is dark brown loamy sand. The subsurface layer is strong brown loamy sand. The subsoil is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

The well drained Nankin soils are on the lower parts of ridges and on side slopes. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

The somewhat excessively drained Troup soils are on the high parts of ridgetops and on the upper parts of side slopes. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

Of minor extent in this map unit are Mantachie, Muckalee, Norfolk, and Tumbleton soils. The somewhat poorly drained Mantachie soils and poorly drained Muckalee soils are in narrow drainageways. Norfolk soils are on the higher parts of ridgetops. They have a yellowish brown, loamy subsoil. Tumbleton soils are in landscape positions similar to those of the Nankin soils. They have a yellowish brown, clayey subsoil.

About three-fourths of this unit is used as woodland. Loblolly pine is the most common tree species. Areas that are used for pasture or hay or as sites for homes are scattered throughout the map unit, mainly on the high ridgetops.

The soils in this unit are poorly suited to cultivated crops, hay, and pasture. The main limitations are the steep, complex slopes, the low fertility, and droughtiness. Erosion is a severe hazard if the soils are tilled. Applications of lime and fertilizer are needed for crops and pasture plants. Crop rotation, terraces, grassed waterways, conservation tillage, cover crops, and contour farming are management practices that are necessary to maintain productivity and control erosion.

The soils in this map unit are suited to woodland. The potential productivity of loblolly pine is moderately high. Common trees include loblolly pine, longleaf pine, shortleaf pine, sweetgum, southern red oak, and hickory. The complex, steep to very steep slopes restrict the use of logging equipment. Erosion is a hazard along the logging roads, landings, and skid trails. The sandy texture of the Lucy and Troup soils hinders the use of equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Lucy and Troup soils.

The soils in this map unit are poorly suited to most urban uses. The main limitation is the slope. The moderately slow permeability in the Nankin soils and the moderate permeability in the Lucy and Troup soils are limitations for some uses.

13. Troup-Nankin

Gently sloping to steep, somewhat excessively drained and well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; formed in sandy, loamy, and clayey sediments

The landscape generally has varied relief in areas of this map unit. It is dominated by narrow to broad, gently sloping ridgetops and strongly sloping to steep side slopes on uplands. Narrow flood plains border incised, intermittent and perennial streams. The landscape is dissected by a well-defined, branching drainage system. Slopes are short and complex, and they range from 2 to 35 percent. The natural vegetation consists of mixed hardwoods and pine.

This map unit makes up about 21 percent of the county. It is about 50 percent Troup soils, 20 percent Nankin soils, and 30 percent soils of minor extent.

The somewhat excessively drained Troup soils are on the higher ridgetops and the upper parts of side slopes. They are nearly level to steep. The surface layer is brown loamy fine sand. The subsurface layer is yellowish brown loamy fine sand and yellowish red loamy sand. The subsoil is red sandy clay loam.

The well drained Nankin soils are on the lower ridges and on the lower parts of side slopes. They are gently sloping to steep. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

About two-thirds of this map unit is used for cultivated crops, pasture, or hay. Corn, peanuts, soybeans, grain sorghum, and wheat are the main crops. Most of the forested areas in this unit are on the strongly sloping to steep side slopes along drainageways and on flood plains.

The soils in this map unit are poorly suited to cultivated crops and are suited to hay and pasture. The main limitations are the low fertility, the slope, and droughtiness. Erosion is a hazard if the soils are tilled. Applications of lime and fertilizer are needed for crops and pasture plants. Crop rotation, terraces, grassed waterways, conservation tillage, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this map unit are suited to woodland. The potential productivity of loblolly pine and slash pine is moderately high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. The slope limits the use of logging equipment on the steeper side slopes. Erosion is a hazard along logging roads, landings, and skid trails. The sandy texture of the Troup soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Troup soils.

The soils in this map unit are poorly suited to most urban uses. The moderately slow permeability in the Nankin soils and the moderate permeability in the Troup soils are limitations for some uses. The slope is a limitation for most urban uses in some areas.

14. Lucy-Nankin

Gently sloping to steep, well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; formed in sandy, loamy, and clayey sediments

The landscape generally has varied relief in areas of this map unit. It is dominated by narrow, gently sloping ridgetops and strongly sloping to steep side slopes on uplands. Narrow flood plains border incised, mostly intermittent streams. The landscape is dissected by a well-defined, branching drainage system. Slopes are generally short and complex, and they range from 2 to 35 percent. The natural vegetation consists of pine and mixed hardwoods.

This map unit makes up about 9 percent of the county. It is about 45 percent Lucy soils, 30 percent Nankin soils, and 25 percent soils of minor extent.

Lucy soils are on the high parts of ridgetops and on the upper parts of side slopes. They are nearly level to steep. The surface layer is dark brown loamy sand. The subsurface layer is strong brown loamy sand. The subsoil is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

Nankin soils are on the lower parts of ridges and on side slopes. The surface layer is yellowish brown loamy sand. The subsoil is yellowish red clay loam in the upper part and yellowish red clay in the lower part. The substratum is yellowish red sandy loam.

Of minor extent in this map unit are Conecuh, Mantachie, Muckalee, Orangeburg, Troup, and Tumbleton soils. Conecuh soils are on toe slopes. They have gray mottles in the upper part of the subsoil. The somewhat poorly drained Mantachie soils and the poorly drained Muckalee soils are in narrow drainageways. Orangeburg soils are on the high parts of ridgetops. They have a loamy subsoil and do not have thick, sandy surface and subsurface layers. Troup soils are in landscape positions similar to those of the Lucy soils. They have sandy surface and subsurface layers more than 40 inches thick. Tumbleton soils are in landscape positions similar to those of the Nankin soils. They have a yellowish brown, clayey subsoil.

Most areas in this unit are forested. Areas that are used for cultivated crops, pasture, or hay or as sites for homes are scattered throughout the map unit, mainly on the high ridgetops.

The soils in this unit are poorly suited to cultivated crops and are suited to pasture and hay. Low fertility, complex slopes, and droughtiness are the main limitations. Erosion is a hazard if the soils are tilled. Applications of lime and fertilizer are needed for crops and pasture plants. Conservation tillage, terraces, grassed waterways, cover crops, and contour farming are management practices that help to maintain productivity and control erosion.

The soils in this unit are suited to woodland. The potential productivity of loblolly pine and slash pine is moderately high. Common trees include loblolly pine, longleaf pine, shortleaf pine, southern red oak, and hickory. The slope limits the use of logging equipment in steep areas. Erosion is a hazard along logging roads, landings, and skid trails. The sandy texture of the Lucy soils hinders the use of wheeled equipment, especially when the soils are very dry or saturated. Soil droughtiness increases the seedling mortality rate in areas of Lucy soils.

The soils in this map unit are poorly suited to most urban uses. The moderately slow permeability in the Nankin soils and the moderate permeability in the Lucy soils are limitations for some uses. The slope is a limitation for most urban uses in some areas.

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 the heading "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, stoniness, salinity, 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, Dothan fine sandy loam, 0 to 2 percent slopes, is a phase of the Dothan series.

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

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Lucy-Nankin complex, 5 to 12 percent slopes, is an example.

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

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. Pits, mines 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 5 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.

AbB—Albany loamy fine sand, 0 to 4 percent slopes

This very deep, somewhat poorly drained soil is on toe slopes and stream terraces in the southern part of the county. Individual areas range from 5 to 50 acres in size. They are irregular in shape.

Typically, the surface layer is very dark grayish brown loamy fine sand about 6 inches thick. The subsurface layer, to a depth of 48 inches, is brown loamy sand in the upper part and white sand that has yellowish brown mottles in the lower part. The subsoil, to a depth of 62 inches, is light yellowish brown sandy loam that has yellowish brown mottles in the upper part and pale brown sandy loam that has gray and yellowish brown mottles in the lower part.

Important properties of the Albany soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 1.0 to 2.5 feet from December through March
Flooding: None

Included in mapping are a few small areas of Clarendon, Fuquay, and Muckalee soils. Clarendon soils and the well drained Fuquay soils are in slightly higher landscape positions than the Albany soil. Clarendon soils do not have thick sandy surface and subsurface layers. The poorly drained Muckalee soils are on narrow flood plains. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are wooded.

This soil is suited to cultivated crops. The main limitations are wetness in spring and droughtiness in summer. Unless a system of surface drainage is provided, mid- to late-season crops are best suited. During periods of prolonged drought, the growth of plants is slowed and yields are reduced. Irrigation can prevent stress to crops during dry periods in most years. Returning crop residue to the soil improves tilth, helps to maintain fertility, and increases the water-holding capacity. Most crops respond well to applications of lime and a complete fertilizer.

This soil is well suited to hay and pasture. Droughtiness is the main limitation. Proper stocking rates, pasture rotation, and restricted grazing during wet or dry periods help to keep the pasture in good condition. Periodic mowing helps to maintain uniform growth, discourages selective grazing, and reduces the clumpy growth and undesirable species. Applications of lime and frequent, light applications of fertilizer promote the good growth of forage plants.

This soil is well suited to the production of loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and blackgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of little bluestem, panicums, southern bayberry, longleaf uniola, and greenbriar.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table restricts the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by wetness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. The main limitation is the wetness. Septic tank absorption fields may not function properly during rainy periods because of the seasonal high water table. Increasing the size of the absorption field or constructing the absorption field on a raised bed helps to compensate for this limitation.

This soil has fair potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Albany soil is in capability subclass IIIe. The woodland ordination symbol is 9W.

BmA—Bigbee-Muckalee complex, 0 to 2 percent slopes, frequently flooded

This map unit consists of the very deep, excessively drained Bigbee soil and poorly drained Muckalee soil. It is on flood plains along large streams in the southeastern part of the county. The soils in this map unit are subject to flooding for brief periods several times each year. They occur as areas so intricately intermingled that it was not practical to separate them at the scale selected for mapping. Individual areas are long and narrow. They range from 5 to 30 acres in size.

The excessively drained Bigbee soil is on high parts of the natural levee adjacent to streams. It makes up about 50 percent of the map unit. Typically, the surface layer is dark brown loamy sand about 11 inches thick. The substratum, to a depth of 65 inches, is yellowish brown loamy sand in the upper part and very pale brown sand in the lower part.

Important properties of the Bigbee soil—

Permeability: Rapid
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 3.5 to 6.0 feet from January through March
Flooding: Frequent

The poorly drained Muckalee soil is in flat or depressional areas. It makes up about 30 percent of the map unit. Typically, the surface layer is grayish brown sandy loam about 6 inches thick. The substratum, to a depth of 72 inches, is grayish brown loamy sand in the upper part, dark grayish brown sandy loam in the next part, and very dark gray loamy sand in the lower part.

Important properties of the Muckalee soil—

Permeability: Moderate
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 0.5 foot to 1.5 feet from December through March
Flooding: Frequent

Included in mapping are a few small areas of Goldsboro, Mantachie, Meggett, and Riverview soils. The moderately well drained Goldsboro soils are on low terraces. They do not flood frequently. The somewhat poorly drained Mantachie soils are in intermediate positions on the natural levee. Meggett soils are in landscape positions similar to those of the Muckalee soil. They have a clayey subsoil. The well drained Riverview soils are on convex parts of natural levees. They have loamy subsoil layers. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit support hardwood forests and are used as wildlife habitat. A few small areas are used for pasture and hay.

This map unit is poorly suited to cultivated crops, pasture, and hay. Wetness and flooding are severe limitations for cultivated crops or pasture. If cultivated crops are grown, a surface drainage system and protection from flooding are needed. If areas are used for pasture or hay, grasses that tolerate wet soil conditions should be selected. Common bermudagrass is a suitable grass to plant. Shallow ditches help to remove excess water from the surface. Deferred grazing during wet periods helps to keep the soil and sod in good condition.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include water oak and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of panicums, gallberry, buckwheat tree, longleaf uniola, sweetbay, and greenbriar.

This map unit has severe limitations for the management of timber. The main limitations are the restricted use of equipment in areas of the Muckalee soil and the seedling mortality rate. The seasonal high water table in the Muckalee soil and the flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment in areas of the Muckalee soil results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soils and helps to maintain productivity. The high seedling mortality rate is caused by frequent flooding, droughtiness in the Bigbee soil, and wetness in areas of the Muckalee soil. It can be reduced by planting on beds or increasing the tree planting rate.

This map unit is not suited to most urban uses. The flooding and wetness are severe limitations that are very difficult to overcome. If buildings are constructed in areas of this unit, they should be placed on pilings or on well-compacted fill above the expected flood level.

This map unit provides habitat for many species of wildlife. It is suited as habitat for openland and woodland wildlife. It has poor potential as habitat for wetland wildlife in areas of the Bigbee soil and fair potential in areas of the Muckalee soil. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, nutria, and otter.

The Bigbee and Muckalee soils are in capability subclass Vw. The woodland ordination symbol is 9S for the Bigbee soil and 9W for the Muckalee soil.

BnB—Bonifay loamy fine sand, 0 to 5 percent slopes

This very deep, well drained soil is on broad ridgetops in the eastern and southern parts of the county. Slopes are generally long and smooth. Individual areas are irregular in shape. They range from 5 to 200 acres in size.

Typically, the surface layer is brown loamy fine sand about 6 inches thick. The subsurface layer, to a depth of

54 inches, is brownish yellow loamy fine sand in the upper part and yellowish brown loamy fine sand in the lower part. The subsoil, to a depth of 73 inches, is light yellowish brown sandy clay loam that has mottles in shades of red, yellow, and brown. Nodular plinthite makes up about 20 percent of the matrix.

Important properties of the Bonifay soil—

Permeability: Rapid in the surface layer and subsurface layer; moderately slow in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 4.0 to 5.0 feet from January through February
Flooding: None

Included in mapping are a few small areas of Dothan, Fuquay, and Troup soils. Dothan soils are in slightly higher landscape positions than the Bonifay soil. They do not have thick sandy surface and subsurface layers. Fuquay and Troup soils are in landscape positions similar to those of the Bonifay soil. Fuquay soils have a loamy subsoil within a depth of 20 to 40 inches. Troup soils have a reddish subsoil and do not have plinthite within a depth of 60 inches. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is suited to cultivated crops. The main limitations are the low fertility and the low available water capacity. Erosion is a moderate hazard in cultivated areas. If this soil is used for row crops, conservation tillage, crop rotation, and cover crops help to conserve moisture and control runoff and erosion. Irrigation can prevent crop damage and increase productivity in most years. Most crops respond well to applications of lime and frequent, light applications of fertilizer.

This soil is well suited to pasture and hay. Bahiagrass and coastal bermudagrass are well suited to this soil. The leaching of plant nutrients is a management concern. Split applications of nitrogen fertilizer are recommended to maintain the productivity of grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of greenbriar, common persimmon, American holly, little bluestem, blackjack oak, and flowering dogwood.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This soil is well suited to most urban uses. The thick, sandy surface and subsurface layers, the low fertility, and the low available water capacity are the main management concerns. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This soil has fair potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. The low available water capacity and the low natural fertility are limitations for improving the potential as habitat for wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

This Bonifay soil is in capability subclass IIIs. The woodland ordination symbol is 10S.

BoA—Bonneau loamy fine sand, 0 to 2 percent slopes

This very deep, well drained soil is on low terraces that are parallel to large streams in the eastern part of the county. Slopes range from 0 to 2 percent and are generally long and smooth. Individual areas are commonly broad. They range from 5 to 200 acres in size.

Typically, the surface layer is brown loamy fine sand about 10 inches thick. The subsurface layer, to a depth of 23 inches, is very pale brown loamy fine sand. The subsoil, to a depth of 68 inches, is yellowish brown sandy clay loam in the upper part, yellowish brown sandy clay loam that has yellowish red and gray mottles in the next part, and yellow sandy clay that has gray mottles in the lower part.

Important properties of the Bonneau soil—

Permeability: Moderate
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 3.5 to 5.0 feet from December through March
Flooding: None

Included in mapping are a few small areas of Kolomoki, Meggett, and Riverview soils. Kolomoki soils are in slightly lower landscape positions than the Bonneau soil. They have a clayey subsoil. The poorly drained Meggett soils are in depressions. Riverview soils are in lower positions adjacent to stream channels. They do not have thick sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. The main limitations are the low fertility and the low available water capacity. Corn and peanuts, generally grown in rotation, are the most common crops. Conservation tillage, cover crops in winter, a crop residue management system, and a crop rotation that includes grasses and legumes increase the available water, decrease crusting, and improve soil fertility. Using supplemental irrigation and selecting crop varieties that are adapted to droughty conditions increase the production of crops.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Grasses such as coastal bermudagrass or bahiagrass are well suited to the soil. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of greenbriar, panicums, American holly, little bluestem, blackjack oak, large gallberry, and southern bayberry.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment and the seedling mortality rate. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate.

This soil is well suited to most urban uses. It has slight to moderate limitations for building sites and local roads and streets and has severe limitations for most sanitary facilities. The main limitations are the wetness and the moderate permeability. Septic tank absorption fields may not function properly during rainy periods because of the wetness and moderate permeability. Increasing the size of the absorption field or constructing the absorption field on a raised bed helps to compensate for these limitations.

This soil has fair potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Bonneau soil is in capability subclass IIs. The woodland ordination symbol is 9S.

CaA—Clarendon sandy loam, 0 to 2 percent slopes

This very deep, moderately well drained soil is on concave slopes adjacent to depressions on broad ridgetops in the southern part of the county. Slopes are long and smooth. Individual areas are round or oblong in shape. They range from 3 to 10 acres in size.

Typically, the surface layer is dark grayish brown sandy loam about 10 inches thick. The subsoil, to a depth of 62 inches, is yellowish brown sandy clay loam in the upper part and is brownish yellow and light yellowish brown sandy clay loam that has mottles in shades of brown, gray, and red in the lower part. Nodular plinthite makes up about 10 percent of the matrix in the lower part.

Important properties of the Clarendon soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 1.5 to 3.0 feet from December through March
Flooding: None

Included in mapping are a few small areas of Dothan, Greenville, and Paxville soils. The well drained Dothan and Greenville soils are in slightly higher landscape positions than the Clarendon soil. Greenville soils have a dark red, clayey subsoil. The very poorly drained Paxville soils are in depressions. They have a dark surface layer and a gray subsoil. Included soils make up about 5 percent of the map unit, but individual areas are generally less than 1 acre in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few small areas are wooded.

This soil is well suited to cultivated crops. Wetness is the main limitation. Planting may be delayed in the spring because of wetness. Shallow ditches help to remove excess water from the soil surface if suitable outlets are available. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soil in good condition. Applications of fertilizer and lime are needed for the optimum production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of panicums, southern bayberry, longleaf uniola, greenbriar, and gallberry.

This soil has slight to moderate limitations for the management of timber. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation or controlled burning.

This soil is suited to most urban uses. It has severe limitations for building sites and most sanitary facilities and has moderate limitations as a site for local roads and streets. The wetness is the main limitation. A seasonal high water table is present during winter and spring, and a drainage system should be provided if buildings are constructed. A deep drainage system helps to reduce the wetness. Septic tank absorption fields will not function properly during rainy periods because of the wetness. Increasing the size of the absorption field or constructing the absorption field on a raised bed helps to compensate for this limitation.

This soil has good potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat for whitetailed deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Clarendon soil is in capability subclass IIw. The woodland ordination symbol is 9W.

CoB2—Conecuh sandy clay loam, 2 to 5 percent slopes, eroded

This very deep, moderately well drained soil is on ridgetops and side slopes in the west-central part of the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and gullies. Slopes are generally long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 10 to 150 acres in size.

Typically, the surface layer is reddish brown and dark brown sandy clay loam about 4 inches thick. The subsoil, to a depth of 54 inches, is red clay that has yellowish brown and gray mottles in the upper part and is light brownish gray clay that has red mottles in the lower part. The substratum, to a depth of 72 inches, is light brownish gray clayey shale.

Important properties of the Conecuh soil—

Permeability: Very slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: High
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Nankin, and Orangeburg soils. Lucy soils are on the higher parts of ridgetops. They have thick sandy surface and subsurface layers. Nankin soils are on higher knolls or ridges. They have kaolinitic clay mineralogy. Orangeburg soils are on the high parts of ridgetops, and they are loamy throughout. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland. A few areas are used for cultivated crops, pasture, or hay.

This soil is poorly suited to cultivated crops. The main management concerns are the low fertility and the moderate hazard of erosion. Measures that control erosion include early-fall seeding, minimum tillage, terraces, diversions, and grassed waterways. Tillage should be on the contour or across the slope. Maintaining crop residue on or near the surface helps to control runoff and maintains tilth and the content of organic matter. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. Bahiagrass and coastal bermudagrass are the main grasses grown. The main management concerns are the low fertility and the hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and shortleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of southern bayberry, greenbriar, muscadine grape, yellow jessamine, flowering dogwood, longleaf uniola, and panicums.

This soil generally has slight limitations for the management of timber. The plant competition, however, is a severe limitation. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings, and skid trails can be protected against erosion by constructing diversions, mulching, and seeding. The low strength restricts the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. It has severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the very slow permeability, the high shrink-swell potential, and low strength on sites for roads and streets. If excavations are made, the cutbanks cave easily. Properly designing foundations and footings and diverting runoff away from the buildings help to prevent the structural damage that results from shrinking and swelling. Septic tank absorption fields will not function properly during rainy periods because of the very slow permeability. An alternative method of sewage disposal is needed to dispose of sewage properly.

This soil has good potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat for whitetailed deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Conecuh soil is in capability subclass IVe. The woodland ordination symbol is 9C.

CoD2—Conecuh sandy clay loam, 5 to 12 percent slopes, eroded

This very deep, moderately well drained soil is on side slopes in the west-central part of the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and gullies. Many well-defined drainageways are across most areas. Slopes are generally short and complex, but they may be long and smooth. Individual areas are irregular in shape. They range from 30 to 150 acres in size.

Typically, the surface layer is reddish brown and dark brown sandy clay loam about 4 inches thick. The subsoil, to a depth of 54 inches, is red clay that has yellowish brown and gray mottles in the upper part and light brownish gray clay that has red mottles in the lower part. The substratum, to a depth of 72 inches, is light brownish gray clayey shale.

Important properties of the Conecuh soil—

Permeability: Very slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: High
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Muckalee, Nankin, and Orangeburg soils. Lucy and Orangeburg soils are on narrow ridgetops. Lucy soils have thick sandy surface and subsurface layers, and

Orangeburg soils are loamy throughout. The poorly drained Muckalee soils are on narrow flood plains. Nankin soils are on the upper parts of slopes or on narrow ridgetops. They have kaolinitic clay mineralogy. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland. A few areas are used for cultivated crops, pasture, or hay or as sites for homes.

This soil is poorly suited to cultivated crops. The main management concerns are the slope, the low fertility, and the severe hazard of erosion. Measures that control erosion include early-fall seeding, minimum tillage, terraces, diversions, and grassed waterways. Tillage should be on the contour or across the slope. Most crops respond well to systematic applications of fertilizer and lime.

This soil is suited to pasture and hay. The main management concerns are the low fertility and the severe hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum, water oak, and shortleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of southern bayberry, greenbriar, muscadine grape, yellow jessamine, flowering dogwood, longleaf uniola, and panicums.

This soil generally has slight limitations for the management of timber. The plant competition, however, is a severe limitation. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings, and skid trails can be protected against erosion by constructing diversions, mulching, and seeding. The low strength restricts the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. It has severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the very slow permeability, the slope, the high shrink-swell potential, and the low strength on sites for roads and streets. If excavations are made, the cutbanks cave. Properly designing foundations and footings and diverting runoff away from the buildings help to prevent the structural damage that results from shrinking and swelling. Septic tank absorption fields will not function properly during rainy periods because of the very slow permeability. An alternative system of sewage disposal should be used to dispose of sewage properly. Maintaining the existing plant cover during construction helps to control erosion.

This soil has good potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Conecuh soil is in capability subclass VIe. The woodland ordination symbol is 9C.

DoA—Dothan fine sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on broad ridgetops in the central and southern parts of the county. Slopes are long and smooth. Individual areas are generally broad. They range from 5 to 80 acres in size.

Typically, the surface layer is brown fine sandy loam about 9 inches thick. The subsoil, to a depth of 80 inches, is yellowish brown sandy clay loam in the upper part and is mottled brown, red, and yellow clay loam and sandy clay loam in the lower part. The content of plinthite nodules in the lower part of the subsoil is more than 5 percent. In some areas, the surface layer is gravelly sandy loam.

Important properties of the Dothan soil—

Permeability: Moderate in the upper part of the subsoil; moderately slow in the lower part
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 3.0 to 5.0 feet from January through April
Flooding: None

Included in mapping are a few small areas of Fuquay, Orangeburg, and Tumbleton soils. Fuquay soils are in slightly lower landscape positions than the Dothan soil. They have thick sandy surface and subsurface layers. Orangeburg soils are on slightly higher knolls or on more convex slopes. They are yellowish red in the upper part of the subsoil. Tumbleton soils are in lower landscape positions, and they have a clayey subsoil. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops, and it has few limitations for this use. Peanuts and corn, which are generally grown in rotation, are the most common crops. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Applications of lime and fertilizer improve fertility and increase the production of forage and hay. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are longleaf pine, sweetgum, and oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of little bluestem, yellow jessamine, panicums, flowering dogwood, oak, and hickory.

This soil has few limitations affecting the production of timber. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees.

This soil is well suited to most urban uses. It has slight or moderate limitations for building sites or local roads and streets. It has moderate or severe limitations for most kinds of sanitary facilities. The main limitations are the wetness and the moderately slow permeability. A subsurface drainage system reduces the wetness. Septic tank absorption fields will not function properly during rainy periods because of the wetness and moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Dothan soil is in capability class I. The woodland ordination symbol is 9A.

DoB—Dothan fine sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on the sides of ridges in the central and southern parts of the county. Slopes are long and smooth. Individual areas are irregular in shape. They range from 5 to 100 acres in size.

Typically, the surface layer is brown fine sandy loam about 9 inches thick. The subsoil, to a depth of 80 inches, is yellowish brown sandy clay loam in the upper part and is mottled brown, red, and yellow clay loam and sandy clay loam in the lower part. The content of plinthite nodules in the lower part of the subsoil is more than 5 percent.

Important properties of the Dothan soil—

Permeability: Moderate in the upper part of the subsoil; moderately slow in the lower part
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 3.0 to 5.0 feet from January through April
Flooding: None

Included in mapping are a few small areas of Fuquay, Muckalee, Orangeburg, and Tumbleton soils. Fuquay and Orangeburg soils are on narrow ridgetops. Fuquay soils have thick sandy surface and subsurface layers. Orangeburg soils are yellowish red in the upper part of the subsoil. The poorly drained Muckalee soils are on narrow flood plains. They are grayish throughout. Tumbleton soils are on the lower parts of slopes. They have a clayey subsoil. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops. Terraces, contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Bahiagrass and coastal bermudagrass are the most common grasses grown. Erosion is a hazard when the soil surface is bare during the establishment of pastures. Tillage should be on the contour or across the slope. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are longleaf pine, sweetgum, and oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of little bluestem, yellow jessamine, panicums, flowering dogwood, oak, and hickory.

This soil has few limitations affecting the production of timber. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees.

This soil is suited to most urban uses. It has slight or moderate limitations for building sites or local roads and streets. It has moderate or severe limitations for most kinds of sanitary facilities. The main limitations are the wetness and the moderately slow permeability. A subsurface drainage system reduces the wetness. Septic tank absorption fields will not function properly during rainy periods because of the wetness and moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Dothan soil is in capability subclass IIe. The woodland ordination symbol is 9A.

DuB—Dothan-Urban land complex, 0 to 5 percent slopes

This map unit consists of the very deep, well drained Dothan soil and areas of Urban land in the cities of Headland, Newville, and Tumbleton. These areas are so intricately intermingled that mapping them separately at the selected scale was not practical. Individual areas are rectangular in shape. They range from 20 to 500 acres in size.

Dothan and similar soils make up about 50 percent of the map unit. Typically, the surface layer of the Dothan soil is brown fine sandy loam about 9 inches thick. The upper part of the subsoil, to a depth of 80 inches, is yellowish brown sandy clay loam in the upper part and is mottled brown, red, and yellow clay loam and sandy clay loam in the lower part. The content of plinthite nodules in the lower part of the subsoil is more than 5 percent.

Important properties of the Dothan soil—

Permeability: Moderate in the upper part of the subsoil; moderately slow in the lower part
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 3.0 to 5.0 feet from January through April
Flooding: None

Urban land makes up about 40 percent of the map unit. It consists of areas that are covered by sidewalks, patios, driveways, parking lots, streets, playgrounds, and buildings.

Included in mapping are a few small areas of Fuquay, Orangeburg, and Tumbleton soils. Fuquay and Orangeburg soils are in slightly higher landscape positions than the Dothan soil. Fuquay soils have thick sandy surface and subsurface layers. Orangeburg soils have a yellowish red subsoil. Tumbleton soils are on the lower parts of slopes. They have a clayey subsoil. In many areas, the soils have been significantly modified by filling, cutting, and grading. Included soils make up about 10 percent of the map unit.

Areas of the Dothan soil are well suited to vegetable gardens, lawn grasses, and most of the commonly grown ornamental shrubs.

Areas of the Dothan soil are suited to most urban uses. This soil has slight or moderate limitations for building sites or local roads and streets and has moderate or severe limitations for most sanitary facilities. The main limitations are the wetness and the moderately slow permeability. A subsurface drainage system reduces the wetness. Septic tank absorption fields will not function properly during rainy periods because of the wetness and moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations.

This map unit is not assigned to a capability subclass or a woodland ordination symbol.

FaB2—Faceville sandy loam, 2 to 5 percent slopes, eroded

This very deep, well drained soil is on ridgetops and side slopes throughout the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and shallow gullies. Slopes are generally long and smooth, but they may be short and complex. Individual areas are irregular in shape. They range from 5 to 20 acres in size.

Typically, the surface layer is reddish brown sandy loam about 4 inches thick. The subsoil, to a depth of 65 inches, is red sandy clay loam in the upper part and red and dark red sandy clay and clay in the middle and lower parts. In a few areas, the surface layer is gravelly sandy loam.

Important properties of the Faceville soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Nankin, Orangeburg, and Red Bay soils. Nankin soils are in landscape positions similar to those of the Faceville soil. They have a thinner solum. Orangeburg and Red Bay soils are on slightly higher knolls or narrow ridges. They are loamy throughout the subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is suited to most cultivated crops. The slope and low fertility are the main limitations. The hazard of erosion is severe. Terraces, contour farming, minimum tillage, and cover crops help to control erosion. Using a sod-based rotation system and incorporating crop residue into the soil increase the content of organic matter and improve tilth. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay, and it has no significant limitations for these uses (fig. 4). Erosion is a hazard when the soil surface is bare during the establishment of pastures. All tillage should be on the contour or across the slope. Applications of fertilizer and lime are needed for the optimum production of forage. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of little bluestem, panicums, longleaf uniola, honeysuckle, and yellow jessamine.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is well suited to most urban uses. It has slight limitations for most uses.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas for red fox, rabbits, quail, and songbirds.

This Faceville soil is in capability subclass IIIe. The woodland ordination symbol is 8A.

FnD2—Faceville-Nankin complex, 5 to 12 percent slopes, eroded

This map unit consists of the very deep, well drained Faceville and Nankin soils on narrow ridges and side

Figure 4.—An area of Faceville sandy loam, 2 to 5 percent slopes, eroded. This soil is well suited to pasture and hayland. The pond provides water for use by livestock, habitat for fish and wildlife, and recreational opportunities for land users.

slopes in the uplands. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Faceville soil makes up about 55 percent of the unit, and the Nankin soil makes up about 35 percent. Slopes are generally short and complex, but they may be long and smooth. Individual areas are irregular in shape. They range from 5 to 50 acres in size.

The Faceville soil is on the upper parts of slopes and on narrow ridgetops. Typically, the surface layer is reddish brown sandy clay loam about 4 inches thick. The subsoil, to a depth of 65 inches, is red sandy clay loam in the upper part and red and dark red sandy clay and clay in the middle and lower parts.

Important properties of the Faceville soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

The Nankin soil is on middle and lower parts of slopes. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam and mottles in shades of brown, gray, and yellow.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Greenville, Lucy, Muckalee, and Orangeburg soils. Greenville soils are on the slightly higher parts of slopes. They are dark red throughout the subsoil. Lucy and Orangeburg soils are in higher positions on narrow ridgetops. Lucy soils have thick sandy surface and subsurface layers. Orangeburg soils have a loamy subsoil. The poorly drained Muckalee soils are on narrow flood plains. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are used as woodland. A few areas are used for pasture and cultivated crops.

This map unit is poorly suited to cultivated crops. The slope, the low fertility, and the severe hazard of erosion are the main limitations. If these soils are cultivated, conservation tillage, crop rotation, and cover crops reduce the runoff rate and control erosion. Tillage should be on the contour or across the slope. Most crops respond well to systematic applications of fertilizer and lime.

This map unit is suited to pasture and hay. Bahiagrass and coastal bermudagrass are the commonly grown grasses. The main management concerns are the low fertility and the severe hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This map unit is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include sweetgum and shortleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of panicums, little bluestem, southern bayberry, yellow jessamine, greenbriar, and flowering dogwood.

This map unit has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Proper site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting. Management activities should include conservation practices to control soil erosion. Roads and landings can be protected from erosion by constructing diversions and by seeding cuts and fills.

This map unit is suited to most urban uses. It has moderate to severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the slope and the moderately slow permeability in the Nankin soil. Septic tank absorption fields may not function properly in areas of the Nankin soil because of the moderately slow permeability. Increasing the size of the absorption area or using an alternate system of waste disposal helps to overcome this limitation. Absorption lines should be installed on the contour.

This map unit has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas for red fox, rabbits, quail, and songbirds.

The Faceville and Nankin soils are in capability subclass VIe. The woodland ordination symbol is 8A.

FuB—Fuquay loamy sand, 0 to 5 percent slopes

This very deep, well drained soil is on broad ridgetops in the southern and eastern parts of the county. Slopes are long and smooth. Individual areas are broad. They range from 10 to 100 acres in size.

Typically, the surface layer is brown loamy sand about 8 inches thick. The subsurface layer, to a depth of 32 inches, is brownish yellow loamy sand. The subsoil, to a depth of 65 inches, is yellowish brown sandy loam in the upper part and brownish yellow sandy clay loam that has brown and red mottles in the lower part. Nodular plinthite makes up about 20 percent of the matrix in the lower part.

Important properties of the Fuquay soil—

Permeability: Rapid in the surface layer and subsurface layer; slow in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 4.0 to 6.0 feet from January through March
Flooding: None

Included in mapping are a few small areas of Bonifay, Dothan, and Tumbleton soils. Bonifay soils are in landscape positions similar to those of the Fuquay soil. They have a sandy surface layer and subsurface layer more than 40 inches thick. Dothan soils are at slightly higher elevations. They do not have thick sandy surface or subsurface layers. Tumbleton soils are at lower elevations. They do not have a thick sandy surface layer, and they have a clayey subsoil. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops or hay. A few areas are used for woodland or pasture or as sites for homes.

This soil is well suited to most cultivated crops. The main limitations are the low available water capacity and the low fertility. Conservation tillage, cover crops in winter, a crop residue management system, and a crop rotation that includes grasses and legumes increase the available water, decrease crusting, and improve soil fertility. Using supplemental irrigation and selecting crop varieties that are adapted to droughty conditions increase the production of crops. Most crops respond well to frequent, light applications of fertilizer.

This soil is well suited to pasture and hay. Bahiagrass and coastal bermudagrass are the most common grasses grown. The leaching of plant nutrients is a management concern. Split applications of nitrogen fertilizer are recommended to maintain the productivity of grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of greenbriar, common persimmon, American holly, little bluestem, blackjack oak, and flowering dogwood.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This soil is suited to most urban uses. The main limitation is the slow permeability. Septic tank absorption fields may not function properly because of the slow permeability. Increasing the size of the absorption field helps to compensate for this limitation.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. The low available water capacity and the low natural fertility are limitations for improving the potential as habitat for wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

This Fuquay soil is in capability subclass IIs. The woodland ordination symbol is 8S.

GoA—Goldsboro loamy sand, 0 to 2 percent slopes

This very deep, moderately well drained soil is on stream terraces throughout the county. Individual areas are generally broad. They range from 5 to 60 acres in size.

Typically, the surface layer is dark grayish brown loamy sand about 8 inches thick. The subsurface layer, to a depth of 19 inches, is brownish yellow sandy loam. The subsoil, to a depth of 65 inches, is yellowish brown sandy clay loam in the upper part and brownish yellow sandy clay loam that has gray, pale brown, and yellowish red mottles in the lower part.

Important properties of the Goldsboro soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low

Seasonal high water table: Apparent, at a depth of 2.0 to 3.0 feet from December through April
Flooding: None

Included in mapping are a few small areas of Albany, Bonneau, Muckalee, and Norfolk soils. Albany soils are in lower landscape positions than the Goldsboro soil. They have thick sandy surface and subsurface layers. Bonneau soils are in slightly higher landscape positions. They have thick sandy surface and subsurface layers. The poorly drained Muckalee soils are on narrow flood plains. The well drained Norfolk soils are in slightly higher landscape positions. Included areas make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops, pasture, and hay. Wetness is a minor management concern. A surface drainage system may be needed for the optimum production of commonly grown crops.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and sweetgum. On the basis of a 50-year site curve, the mean site index for slash pine is 90. The understory vegetation consists mainly of panicums, southern bayberry, longleaf uniola, greenbriar, and little bluestem.

This soil generally has slight limitations for management of timber. The plant competition, however, is a moderate limitation. The seasonal high water table can restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is well suited to most urban uses. It has moderate limitations for building sites or local roads and streets and has severe limitations for most sanitary facilities. Wetness is the main limitation. A seasonal high water table is present during winter and spring, and a drainage system should be provided if buildings are constructed. A deep drainage system helps to reduce wetness. Septic tank absorption fields will not function properly during rainy periods because of wetness. Constructing the absorption field on a raised bed helps to overcome the high water table.

This soil has good potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat for whitetailed deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

This Goldsboro soil is in capability subclass IIw. The woodland ordination symbol is 9A.

GrA—Greenville fine sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on broad ridgetops in the southern part of the county. Slopes are long and smooth. Most areas are oblong in shape. They range from 10 to 100 acres in size.

Typically, the surface layer is dark reddish brown fine sandy loam about 5 inches thick. The subsoil, to a depth of 72 inches, is dark red sandy clay.

Important properties of the Greenville soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Orangeburg, Red Bay, and Nankin soils. Lucy, Orangeburg, and Red Bay soils are in slightly higher landscape positions than the Greenville soil. Lucy soils have thick sandy surface and subsurface layers and have a loamy subsoil. Orangeburg and Red Bay soils also have a loamy subsoil. Nankin soils are in lower landscape positions than the Greenville soil. The subsoil of the Nankin soils is not dark red, and the lower part of the subsoil is loamy. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. It has few limitations for this use, although low fertility is a management concern. Peanuts and corn, which are generally grown in rotation, are the most common crops. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. It has no significant limitations for these uses, although low fertility is a management concern. Coastal bermudagrass and bahiagrass are the most commonly grown grasses. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of greenbriar, yellow jessamine, longleaf uniola, panicums, and little bluestem.

This soil has few limitations affecting the production of timber, although plant competition is a minor management concern. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees.

This soil is well suited to most urban uses. It has slight to moderate limitations for most uses. The main limitation is the moderate permeability. Septic tank absorption fields may not function properly because of the moderate permeability. Enlarging the absorption field can help to overcome this limitation.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by planting grasses and other seed-producing plants around cropland and pasture.

This Greenville soil is in capability class I. The woodland ordination symbol is 8A.

GrB—Greenville fine sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on side slopes of ridges in the southern part of the county. Slopes are long and smooth. Individual areas are irregular in shape. They range from 10 to 50 acres in size.

Typically, the surface layer is dark reddish brown fine sandy loam about 5 inches thick. The subsoil, to a depth of 72 inches, is dark red sandy clay.

Important properties of the Greenville soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Nankin, Orangeburg, and Red Bay soils. Lucy, Nankin, and Red Bay soils are on narrow ridgetops or on the upper parts of slopes. Lucy soils have thick sandy surface and subsurface layers and have a loamy subsoil. Orangeburg and Red Bay soils also have a loamy subsoil. Nankin soils are in landscape positions similar to those of the Greenville soil. The subsoil is not dark red, and the lower part of the subsoil is loamy. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops. A few areas are used for soybeans or grain sorghum. The main limitations are the low fertility and the moderate hazard of erosion. Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till, and crop residue management reduces the hazard of erosion, reduces the runoff rate, and increases the infiltration of rainfall. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. Coastal bermudagrass and bahiagrass are the most commonly grown grasses. The main management concerns are the low fertility and the moderate hazard of erosion. During the establishment of pastures, the seedbed should be prepared on the contour or across the slope if practical. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of greenbriar, yellow jessamine, longleaf uniola, panicums, and little bluestem.

This soil has few limitations affecting the production of timber, although plant competition is a minor management concern. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees.

This soil is well suited to most urban uses. It has slight to moderate limitations for most uses. The main limitation is the moderate permeability. Septic tank absorption fields may not function properly because of the moderate permeability. Enlarging the absorption field helps to overcome this limitation.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by planting grasses and other seed-producing plants around cropland and pasture.

This Greenville soil is in capability subclass IIe. The woodland ordination symbol is 8A.

KoB—Kolomoki fine sandy loam, 0 to 3 percent slopes, rarely flooded

This very deep, well drained soil is on low stream terraces in the eastern part of the county. Flooding is rare, but it can occur under unusual weather conditions. Slopes are generally long and smooth. Most areas are broad. They range from 20 to 400 acres in size.

Typically, the surface layer is dark yellowish brown fine sandy loam about 10 inches thick. The subsoil, to a depth of 48 inches, is yellowish red sandy clay loam and red clay in the upper part and yellowish red sandy clay loam in the lower part. The substratum is yellowish red sandy loam to a depth of 64 inches.

Important properties of the Kolomoki soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: Rare

Included in mapping are a few small areas of Meggett and Bonneau soils. Also included are areas of soils that are similar to the Kolomoki soil except that they have a loamy sand surface layer more than 20 inches thick. They are on long narrow ridges and are generally parallel to the streams. Bonneau soils are on slightly higher knolls or narrow ridges. They have thick sandy surface and subsurface layers and have a loamy subsoil. The poorly drained Meggett soils are in depressions. They are grayish throughout. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for crops, pasture, or hay. A few areas are wooded.

This soil is well suited to cultivated crops. Corn and peanuts, generally grown in rotation, are the most common crops. Although flooding rarely occurs, it can damage crops or equipment in some years. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay, and it has no significant limitations for these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses (fig. 5). Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. On the basis of a 50-year site curve, the mean site index for loblolly pine and slash pine is 95. The understory vegetation consists mainly of American holly, flowering dogwood, little bluestem, panicums, and honeysuckle.

This soil has few limitations affecting the production of timber, although plant competition is a minor management concern. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees.

This soil is poorly suited to most urban uses. The hazard of flooding is a severe limitation that is difficult to overcome. If this soil is used as a home site, the building should be constructed on elevated, well-compacted fill material to minimize damage from floodwater.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable

Figure 5.—An area of Kolomoki fine sandy loam, 0 to 3 percent slopes, rarely flooded. This soil is well suited to pecan trees and pasture.

browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by planting grasses and other seed-producing plants around cropland and pasture.

This Kolomoki soil is in capability class I. The woodland ordination symbol is 9A.

LbB—Lucy loamy sand, 0 to 5 percent slopes

This very deep soil is on narrow to broad ridgetops throughout the county. Slopes are generally long and smooth, but they may be short and complex. Individual areas are irregular in shape. They range from 5 to 50 acres in size.

Typically, the surface layer is dark brown loamy sand about 12 inches thick. The subsurface layer, to a depth of 25 inches, is strong brown loamy sand. The subsoil, to a depth of 65 inches, is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

Important properties of the Lucy soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low

Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Orangeburg, Nankin, and Troup soils. Orangeburg soils are in slightly higher landscape positions than the Lucy soil. They do not have thick sandy surface and subsurface layers. Nankin soils are on the lower slopes. They do not have a thick sandy surface layer, and they have a clayey subsoil. Troup soils are in landscape positions similar to those of the Lucy soil. They have a sandy surface layer and subsurface layer more than 40 inches thick. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A large acreage is used as woodland.

This soil is suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops (fig. 6). The moderate hazard of erosion, the low fertility, and the low available water capacity are the main limitations. Contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Irrigation can prevent crop damage and increase productivity in most years. Returning crop residue to the soil helps to maintain tilth and increases the water-holding capacity. Most crops respond well to applications of lime and frequent, light applications of fertilizer.

This soil is well suited to pasture and hay. Coastal bermudagrass and bahiagrass are well suited to this soil. The main limitations are the low fertility and the low available water capacity. The leaching of plant nutrients is a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of

Figure 6.—An area of Lucy loamy sand, 0 to 5 percent slopes. This soil is well suited to growing peanuts. Planting on the contour helps to control soil erosion.

grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of greenbriar, common persimmon, American holly, little bluestem, blackjack oak, and flowering dogwood.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This soil is well suited to most urban uses. The thick, sandy surface layer, the low fertility, and the low available water capacity are the main management concerns. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This soil has fair potential as habitat for openland wildlife, good potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. The low available water capacity and the low natural fertility are limitations for improving the potential as habitat for wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

This Lucy soil is in capability subclass IIs. The woodland ordination symbol is 8S.

LnD—Lucy-Nankin complex, 5 to 12 percent slopes

This map unit consists of the very deep, well drained Lucy and Nankin soils on narrow ridgetops and on side slopes in the northeastern part of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Lucy soil makes up about 45 percent of the map unit, and the Nankin soil makes up about 35 percent. Slopes are generally short and complex, but they may be long and smooth. Individual areas are irregular in shape. They range from 10 to 200 acres in size.

The Lucy soil is on the upper parts of slopes and on narrow ridgetops. Typically, the surface layer is dark brown loamy sand about 12 inches thick. The subsurface layer, to a depth of 25 inches, is strong brown loamy sand. The subsoil, to a depth of 65 inches, is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

Important properties of the Lucy soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

The Nankin soil is on the middle and lower parts of slopes. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam and mottles in shades of brown, gray, and yellow.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Faceville, Muckalee, and Orangeburg soils. Faceville and Orangeburg soils are on the higher parts of narrow ridges. Faceville soils are similar to the Nankin soil, but they have a thicker solum. Orangeburg soils have a loamy subsoil, and they do not have thick sandy surface and subsurface layers. The poorly drained Muckalee soils are on narrow flood plains. They are grayish throughout. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are wooded. They are used for the production of timber and as habitat for wildlife. A few areas are used for pasture or cultivated crops.

This map unit is poorly suited to most cultivated crops. The short, complex slopes, the low fertility, and the severe hazard of erosion are the main limitations. Minimum tillage and cover crops help to control runoff and erosion. Tillage should be on the contour or across the slope. Most crops respond well to systematic applications of fertilizer and lime.

This map unit is suited to pasture and hay. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. The main management concerns are the low fertility and the severe hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition.

This map unit is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include longleaf pine, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of panicums, little bluestem, southern bayberry, greenbriar, yellow jessamine, and common persimmon.

This map unit has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition in areas of the Lucy soil. The sandy surface layer of the Lucy soil restricts the use of wheeled equipment, especially when the soil is dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation. Management activities should include conservation practices to control soil erosion. Roads and landings can be protected from erosion by constructing diversions and by seeding cuts and fills.

This map unit is suited to most urban uses. It has moderate to severe limitations for building sites, local roads and streets, and most sanitary facilities. The slope is the main limitation for most uses. The moderately slow permeability in the Nankin soil is also a severe limitation for septic tank absorption fields. It limitation can be overcome by increasing the size of the absorption field or by using an alternative system of waste disposal. Absorption lines should be installed on the contour. If buildings are constructed, areas of the Lucy soil should be selected.

This map unit has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

The Lucy soil is in capability subclass IVs, and the woodland ordination symbol is 8S. The Nankin soil is in capability subclass IVe, and the woodland ordination symbol is 8A.

LnE—Lucy-Nankin complex, 12 to 35 percent slopes

This map unit consists of the very deep, well drained Lucy and Nankin soils on side slopes in the eastern and northeastern part of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Lucy soil makes up about 50 percent of the map unit, and the Nankin soil makes up about 35 percent. Slopes are generally short and complex. Individual areas are irregular in shape. They range from 50 to 300 acres in size.

The Lucy soil is generally on the upper parts of slopes and on narrow ridgetops. Typically, the surface layer is dark brown loamy sand about 12 inches thick. The subsurface layer, to a depth of 25 inches, is strong brown loamy sand. The subsoil, to a depth of 65 inches, is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

Important properties of the Lucy soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
High water table: More than 6 feet deep
Flooding: None

The Nankin soil is generally on the lower parts of slopes. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam and mottles in shades of brown, gray, and yellow.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Muckalee, Orangeburg, and Troup soils and small areas of moderately well drained soils in narrow drainageways. The poorly drained Muckalee soils are on narrow flood plains. They are loamy and are grayish in color. Orangeburg soils are on the high parts of narrow ridges. They have a loamy subsoil and do not have a thick sandy surface layer. Troup soils are in landscape positions similar to those of the Lucy soil. They have sandy surface and subsurface layers more than 40 inches thick. Included soils make up about 15 percent of the map unit, but individual areas are mostly less than 5 acres in size.

Most areas of this map unit are used as woodland. A few areas are used for pasture.

This map unit is not suited to most cultivated crops. The complex topography and the strongly sloping to steep slopes are severe limitations for the use of equipment. Erosion is a severe hazard. The sandy texture and droughtiness are additional limitations in areas of the Lucy soil. If the soils are cultivated, all tillage should be on the contour or across the slope.

This map unit is poorly suited to pasture and hay. The steep, complex slopes and the severe hazard of erosion are the main limitations. The seedbed should be prepared on the contour or across the slope if practical. Drought-tolerant grasses are best suited to areas of the Lucy soil, and native grasses are best suited to the more steeply sloping areas.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of greenbriar, flowering dogwood, little bluestem, panicums, and yellow jessamine.

This map unit has moderate limitations for the management of timber. The main limitations are the hazard of erosion, the equipment limitation, the seedling mortality rate, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings and skid trails can be protected against erosion by constructing diversions, mulching, and seeding. The main limitation for harvesting timber is the slope. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Cable yarding systems are safer and damage the soil less. The high seedling mortality rate in areas of the Lucy soil is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This map unit is poorly suited to most urban uses. It has severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the slope and the moderately slow permeability in the Nankin soil. Erosion is a hazard in the steeper areas. Only the part of the site that is used for construction should be disturbed. Access roads can be designed so that surface runoff is controlled and cut slopes are stabilized. The moderately slow permeability in the Nankin soil increases the probability that septic tank absorption fields will fail. Alternative methods of sewage disposal should be used, or the absorption lines should be constructed in areas of the Lucy soil.

This map unit has fair potential as habitat for openland wildlife, good potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. Habitat for wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

The Lucy and Nankin soils are in capability subclass VIIe. The woodland ordination symbol is 8R.

MaA—Mantachie loam, 0 to 2 percent slopes, frequently flooded

This very deep, somewhat poorly drained soil is on flood plains along the larger streams throughout the county. It is subject to flooding for brief periods several times each year. Individual areas are generally long and narrow. They range from 10 to 150 acres in size.

Typically, the surface layer is dark grayish brown and dark yellowish brown loam about 8 inches thick. The subsoil, to a depth of 64 inches, is yellowish brown sandy clay loam in the upper part and light gray sandy clay loam that has yellow, gray, and brown mottles in the lower part.

Important properties of the Mantachie soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Medium
Natural fertility: Medium
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 1.0 to 1.5 feet from December through March
Flooding: Frequent

Included in mapping are a few small areas of Bigbee and Muckalee soils. The excessively drained Bigbee soils are on the high parts of the flood plain, adjacent to the stream channel. They are sandy throughout. The poorly drained Muckalee soils are in depressions. They are grayish throughout. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland and as habitat for wildlife. A few small areas are used for pasture, hay, or cultivated crops.

This soil is poorly suited to cultivated crops. The flooding and wetness are the major management concerns. Tillage and planting may be delayed in spring, and crops may be damaged by flooding in late spring and early summer. Although flooding can be controlled by a system of levees and pumps, the system is often impractical to install. Shallow ditches help to remove water from the surface.

This soil is poorly suited to pasture and hay because of the frequent flooding and the wetness. Grasses that are tolerant of wetness and flooding are recommended. Deferred grazing during wet periods helps to keep the soil and sod in good condition. A drainage system helps to remove excess water from the surface.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 100. The understory vegetation consists mainly of panicums, gallberry, buckwheat tree, longleaf uniola, sweetbay, and greenbriar.

This soil has severe limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness. It can be reduced by planting on beds or increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. The flooding and wetness are severe limitations that are difficult to overcome. If buildings are constructed in areas of this soil, they should be placed on pilings or on well-compacted fill material to elevate them above the expected flood level.

This soil has fair potential as habitat for openland wildlife, good potential as habitat for woodland wildlife, and fair potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, nutria, and otter.

This Mantachie soil is in capability subclass Vw. The woodland ordination symbol is 10W.

MgA—Meggett loam, 0 to 2 percent slopes, frequently flooded

This very deep, poorly drained soil is on flood plains along the larger streams throughout the county. It is subject to flooding for brief periods several times each year. Individual areas are generally long and narrow. They range from 5 to 150 acres in size.

Typically, the surface layer is dark gray loam about 6 inches thick. The subsurface layer, to a depth of 13 inches, is gray loam. The subsoil, to a depth of 63 inches, is gray clay loam and clay that has mottles in shades of yellow and brown.

Important properties of the Meggett soil—

Permeability: Slow
Available water capacity: High
Organic matter content: Medium

Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: High
Seasonal high water table: Apparent, at the surface to a depth of 1 foot from November through April
Flooding: Frequent

Included in mapping are a few small areas of Bonneau, Kolomoki, Mantachie, and Muckalee soils. Bonneau and Kolomoki soils are on low terraces. Bonneau soils have thick sandy surface and subsurface layers. The well drained Kolomoki soils have a yellowish red subsoil. The somewhat poorly drained Mantachie soils are in slightly higher positions on the flood plain. They are loamy throughout. Muckalee soils are in landscape positions similar to those of the Meggett soil. They are loamy throughout. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are wooded. They are used for the production of timber and as habitat for wildlife. A few small areas are used for pasture or hay.

This soil is poorly suited to cultivated crops, pasture, and hay. The wetness and frequent flooding are the main limitations. If cultivated crops are grown, a surface drainage system and protection from flooding are needed. If areas are used for pasture or hay, grasses that tolerate wet soil conditions should be selected. Common bermudagrass is a suitable pasture grass to plant.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and tupelo gum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 100. The understory vegetation consists mainly of panicums, dwarf palmetto, red maple, southern bayberry, and maidencane.

This soil has severe limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness. It can be reduced by planting on beds or increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. It has severe limitations for building sites, local roads and streets, and most sanitary facilities. The major limitation is the frequent flooding. Although it is generally not feasible to control the flooding, buildings can be placed on pilings or mounds to elevate them above the expected flood level. Other limitations for urban uses include the wetness, the slow permeability, the high shrink-swell potential, and the low strength if used for roads and streets.

This soil has fair potential as habitat for openland wildlife and good potential as habitat for woodland and wetland wildlife. Habitat for openland and woodland wildlife can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, mink, and otter.

This Meggett soil is in capability subclass Vlw. The woodland ordination symbol is 10W.

MuA—Muckalee sandy loam, 0 to 1 percent slopes, frequently flooded

This very deep, poorly drained soil is on flood plains along small streams throughout the county. It is subject to flooding for brief periods several times each year. Individual areas are generally long and narrow. They range from 5 to 100 acres in size.

Typically, the surface layer is grayish brown sandy loam about 6 inches thick. The substratum, to a depth of 72 inches, is grayish brown loamy sand in the upper part, dark grayish brown sandy loam in the next part, and dark gray loamy sand in the lower part.

Important properties of the Muckalee soil—

Permeability: Moderate
Available water capacity: Medium
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 0.5 foot to 1.5 feet from December through March
Flooding: Frequent

Included in mapping are a few small areas of Bigbee, Mantachie, and Meggett soils. The excessively drained Bigbee soils are on the high parts of the flood plain, adjacent to the stream channel. They are sandy throughout. The somewhat poorly drained Mantachie soils are on slightly higher parts of the flood plain. Meggett soils are in landscape positions similar to those of the Muckalee soil. They have a clayey subsoil. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are wooded. They are used for the production of timber and as habitat for wildlife. A few small areas are used for pasture or hay.

This soil is poorly suited to cultivated crops, pasture, and hay. The wetness and frequent flooding are the main limitations. If cultivated crops are grown, a surface drainage system and protection from flooding are needed. If areas are used for pasture or hay, grasses that tolerate wet soil conditions should be selected. Common bermudagrass is a suitable pasture grass to plant. Shallow ditches help to remove excess water from the surface.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and blackgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of panicums, gallberry, buckwheat tree, sweetbay, and greenbriar.

This soil has severe limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table and flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet causes severe rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness. It can be reduced by planting on beds or increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is poorly suited to most urban uses. It has severe limitations for building sites, local roads and streets, and most sanitary facilities. The main limitations are the wetness and flooding. Although it is generally not feasible to control flooding, buildings can be placed on pilings or mounds to elevate them above the expected flood level.

This soil has poor potential as habitat for openland wildlife and fair potential as habitat for woodland and wetland wildlife. Habitat for openland and woodland wildlife can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, mink, and otter.

This Muckalee soil is in capability subclass Vw. The woodland ordination symbol is 9W.

NaB2—Nankin sandy clay loam, 2 to 5 percent slopes, eroded

This very deep, well drained soil is on side slopes and narrow ridgetops in the southeastern part of the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and shallow gullies. Slopes are generally short and complex. Most areas are irregular in shape. They range from 5 to 150 acres in size.

Typically, the surface layer is reddish brown sandy clay loam about 4 inches thick. The subsoil, to a depth of 47 inches, is red sandy clay that has mottles in shades of brown, gray, and yellow. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay and mottles in shades of brown, gray, and yellow. In some areas, the surface layer is sandy loam.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Dothan, Orangeburg, and Tumbleton soils. Also included are small areas of severely eroded soils and small areas of soils that have large fragments of ironstone on the surface. Dothan and Orangeburg soils are on the higher parts of narrow ridges. They are loamy throughout. Tumbleton soils are in landscape positions similar to those of the Nankin soil. They have a yellowish brown subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil used as woodland or pasture. A few areas are used for cultivated crops or hay.

This soil is suited to cultivated crops. The main management concerns are the low fertility, the poor tilth, and the severe hazard of erosion. Terraces, contour farming, minimum tillage and cover crops reduce the runoff rate and help to control erosion. Using a sod-based rotation system and incorporating crop residue into the soil increase the content of organic matter and improve tilth. Most crops respond well to systematic applications of lime and fertilizer.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Erosion is a hazard when the soil surface is bare during the establishment of pasture. Tillage should be on the contour or across the slope to reduce soil losses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soil in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of little bluestem, panicums, yellow jessamine, flowering dogwood, honeysuckle, and greenbriar.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is suited to most urban uses. It has slight limitations for building sites or local roads and streets and has moderate to severe limitations for most sanitary facilities. The main limitation is the moderately slow permeability. Septic tank absorption fields may not function properly because of the moderately slow permeability. Increasing the size of the absorption field or using an alternative method of waste disposal helps to overcome this limitation.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

This Nankin soil is in capability subclass IIIe. The woodland ordination symbol is 8A.

NaD2—Nankin sandy clay loam, 5 to 12 percent slopes, eroded

This very deep, well drained soil is on side slopes throughout the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and shallow gullies. Slopes are generally short and complex. Individual areas are irregular in shape. They range from 10 to 150 acres in size.

Typically, the surface layer is reddish brown sandy clay loam about 4 inches thick. The subsoil, to a depth of 47 inches, is red sandy clay that has mottles in shades of brown, gray, and yellow. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay and mottles in shades of brown, gray, and yellow. In some areas, the surface layer is sandy loam.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Dothan, Muckalee, Orangeburg, and Tumbleton soils. Also included are small areas of severely eroded soils and small areas of soils that have large fragments of ironstone on the surface. Dothan and Orangeburg soils are on narrow ridgetops. They are loamy throughout. The poorly drained Muckalee soils are on narrow flood plains. They are grayish and loamy throughout. Tumbleton soils are in landscape positions similar to those of Nankin soil. They have a yellowish brown subsoil. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland. A few areas are used for pasture or cultivated crops.

This soil is poorly suited to cultivated crops. The short, complex slopes, the low fertility, and the severe hazard of erosion are the main limitations. Terraces, contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Using a sod-based rotation system and incorporating crop residue into the soil increase the content of organic matter and improve tilth. Most crops respond well to systematic applications of lime and fertilizer.

This soil is suited to pasture and hay. The short, complex slopes and the severe hazard of erosion are the main limitations. Tillage should be on the contour or across the slope to reduce soil losses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soil in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of little bluestem, panicums, yellow jessamine, flowering dogwood, honeysuckle, and greenbriar.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Proper site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting. Management activities should include conservation practices to control soil erosion. Roads and landings can be protected from erosion by constructing diversions and by seeding cuts and fills.

This soil is suited to most urban uses. It has moderate to severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the slope and the moderately slow permeability. Septic tank absorption fields may not function properly because of the moderately slow permeability. Increasing the size of the absorption area or using an alternative system of waste disposal helps to overcome this limitation. Absorption lines should be placed on the contour. Maintaining the existing plant cover during construction helps to control erosion.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

This Nankin soil is in capability subclass VIe. The woodland ordination symbol is 8A.

NcE—Nankin-Conecuh complex, 15 to 45 percent slopes

This map unit consists of the very deep, well drained Nankin soil and moderately well drained Conecuh soil on side slopes near Abbeville. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Nankin soil makes up about 50 percent of the map unit, and the Conecuh soil makes up about 30 percent. Slopes are generally short and complex. Individual areas are irregular in shape. They range from 100 to 500 acres in size.

The Nankin soil is on upper and middle parts of slopes and on narrow ridgetops. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam and mottles in shades of brown, gray, and yellow.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

The Conecuh soil is on the lower parts of slopes. Typically, the surface layer is dark yellowish brown loamy sand about 5 inches thick. The subsoil, to a depth of 65 inches, is yellowish red clay that has yellow, brown, and gray mottles in the upper part and yellowish red clay that has thin strata of loamy sand and gray shaly clay in the lower part.

Important properties of the Conecuh soil—

Permeability: Very slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: High
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Faceville, Muckalee, and Orangeburg soils. Faceville soils are on the more smoothly sloping areas on narrow ridges. They have kaolinitic mineralogy, and the solum thickness is greater than that of the Nankin soil. The poorly drained Muckalee soils are on narrow flood plains. Orangeburg soils are on narrow ridges. They are loamy throughout. Included soils make up about 20 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are used as woodland. A few small areas are used as pasture.

This map unit is not suited to cultivated crops, mainly because the slopes are too steep and the hazard of erosion is too severe. The irregular slope and the low fertility are additional limitations.

This map unit is poorly suited to pasture and hay. The main limitations are the slope, the low fertility, and the severe hazard of erosion. The steep areas are best suited to native grasses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include water oak, sweetgum, and shortleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine and slash pine is 80 for the Nankin soil and 90 for the Conecuh soil. The understory vegetation consists mainly of greenbriar, flowering dogwood, longleaf uniola, and panicums.

This map unit has moderate limitations for the management of timber. The main limitations are the hazard of erosion, the equipment limitation, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings, and skid trails can be protected against erosion by constructing diversions, mulching, and seeding. The slope restricts the use of equipment. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Cable yarding systems are safer and damage the soil less. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This map unit is poorly suited to most urban uses. It is generally not suitable as a site for buildings because of the slope and the hazard of slipping. Other limitations include the moderately slow permeability in the Nankin soil and the high shrink-swell potential, the very slow permeability, and the low strength if used for local roads and streets in the Conecuh soil.

This map unit has poor potential as habitat for openland wildlife, good potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. Habitat can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

The Nankin and Conecuh soils are in capability subclass VIIe. The woodland ordination symbol is 8R for the Nankin soil and 9R for the Conecuh soil.

NnE—Nankin-Lucy complex, 20 to 60 percent slopes

This map unit consists of the very deep, well drained Nankin and Lucy soils on side slopes in the northeastern part of the county. The soils occur as areas so intricately intermingled that they cannot be mapped separately at the scale selected for mapping. The Nankin soil makes up about 50 percent of the map unit, and the Lucy soil makes up about 35 percent. Slopes are short and complex. Individual areas are irregular in shape. They range from 50 to 500 acres in size.

The Nankin soil is on the middle and lower parts of slopes. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam and mottles in shades of brown, gray, and yellow.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

The Lucy soil is on the upper parts of slopes and on narrow ridgetops. Typically, the surface layer is dark brown loamy sand about 12 inches thick. The subsurface layer, to a depth of 25 inches, is strong brown loamy sand. The subsoil, to a depth of 65 inches, is yellowish red sandy loam in the upper part and red sandy clay loam and clay loam in the lower part.

Important properties of the Lucy soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Muckalee, Troup, and Orangeburg soils. The poorly drained Muckalee soils are on narrow flood plains. Troup soils are in landscape positions similar to those of the Lucy soil. They have sandy surface and subsurface layers more than 40 inches thick. Orangeburg soils are on narrow ridgetops. They have a loamy subsoil, and they do not have a thick sandy surface layer. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are used as woodland. A few small areas are used as pasture.

This map unit is not suited to cultivated crops, mainly because of the steep slopes and the severe hazard of erosion.

This map unit is poorly suited to pasture and hay. The main limitations are the steep, irregular slopes and the severe hazard of erosion. The steeper areas are best suited to native grasses.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include longleaf pine and shortleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of flowering dogwood, red maple, greenbriar, and switchcane.

This map unit has severe limitations for the management of timber. The main limitations are the severe hazard of erosion, the severely restricted use of equipment, the high seedling mortality rate, and the moderate plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings, and skid trails can be protected against erosion by constructing diversions, mulching, seeding, and constructing roads on the contour. The slope limits the use of equipment for harvesting timber. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Cable yarding systems are safer and damage the soil less. The high seedling mortality rate is caused by droughtiness in the Lucy soil. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This map unit is poorly suited to most urban uses. It is generally not suitable for building sites because of the slope. Other limitations include the moderately slow permeability in the Nankin soil.

This map unit has poor potential as habitat for openland wildlife, good potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. Habitat can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

The Nankin and Lucy soils are in capability subclass VIIe. The woodland ordination symbol is 8R.

NoA—Norfolk loamy sand, 0 to 2 percent slopes

This very deep, well drained soil is on broad ridgetops in the southern part of the county. Slopes are generally long and smooth. Individual areas are generally broad. They range from 5 to 40 acres in size.

Typically, the surface layer is dark brown loamy sand about 10 inches thick. The subsurface layer, to a depth of 20 inches, is yellowish brown sandy loam. The subsoil, to a depth of 62 inches, is yellowish brown sandy clay loam and clay loam in the upper part and brownish yellow sandy clay loam that has red mottles in the lower part.

Important properties of the Norfolk soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 4.0 to 6.0 feet from January through March
Flooding: None

Included in mapping are a few small areas of Dothan, Fuquay, and Orangeburg soils. Dothan, Fuquay, and Orangeburg soils are in slightly higher landscape positions than the Norfolk soil. Dothan soils have more than 5 percent plinthite in the lower part of the subsoil.

Fuquay soils have loamy sand surface and subsurface layers ranging from 20 to 40 inches thick. Orangeburg soils have a red or yellowish red subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops. The main limitation is the low fertility. The soil is friable and can be easily kept in good tilth. It can be worked throughout a wide range in moisture content. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. The main limitation is the low fertility. Applications of lime and fertilizer improve the fertility of the soil and promote the good growth of forage plants. Deferred grazing during wet or dry periods helps to prevent soil compaction and helps to keep the pasture and soil in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, shortleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of American holly, flowering dogwood, common persimmon, and greenbriar.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is well suited to most urban uses. It has slight to moderate limitations for building sites, local roads and streets, and most types of sanitary facilities. The main limitation is wetness. A seasonal high water table is present during winter and spring, and a drainage system should be provided if buildings are constructed. Septic tank absorption fields may not function properly during rainy periods because of wetness and the moderate permeability. Increasing the size of the absorption area or constructing the absorption field on a raised bed helps to compensate for these limitations.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers.

This Norfolk soil is in capability class I. The woodland ordination symbol is 8A.

NoB—Norfolk loamy sand, 2 to 5 percent slopes

This very deep, well drained soil is on side slopes and narrow ridges in the southern part of the county. Slopes are generally long and smooth. Individual areas are generally long and narrow. They range from 5 to 60 acres in size.

Typically, the surface layer is dark brown loamy sand about 10 inches thick. The subsurface layer, to a depth of 20 inches, is yellowish brown sandy loam. The subsoil, to a depth of 62 inches, is yellowish brown sandy clay loam and clay loam in the upper part and brownish yellow sandy clay loam that has red mottles in the lower part.

Important properties of the Norfolk soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 4.0 to 6.0 feet from January through March
Flooding: None

Included in mapping are a few small areas of Dothan, Fuquay, Muckalee, and Orangeburg soils. Dothan, Fuquay, and Orangeburg soils are on the upper parts of slopes or on narrow, convex ridgetops. Dothan soils have more than 5 percent plinthite in the lower part of the subsoil. Fuquay soils have loamy sand surface and subsurface layers that range from 20 to 40 inches thick. Orangeburg soils have a red and yellowish red subsoil. The poorly drained Muckalee soils are on narrow flood plains. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few small areas are wooded.

This soil is well suited to cultivated crops. The main limitations are the slope, the low fertility, and the moderate hazard of erosion. Terraces, contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to additions of lime and a complete fertilizer.

This soil is well suited to pasture and hay. The main limitations are the low fertility and the moderate hazard of erosion. Bahiagrass and coastal bermudagrass are the commonly grown grasses. Tillage should be on the contour or across the slope. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve the soil fertility and promote the good growth of forage plants.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are longleaf pine, shortleaf pine, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 85. The understory vegetation consists mainly of American holly, flowering dogwood, common persimmon, and greenbriar.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is well suited to most urban uses. It has slight to moderate limitations for building sites, local roads and streets, and most sanitary facilities. The main limitations are the wetness and the moderate permeability. A seasonal high water table is present during winter and spring, and a drainage system should be provided if buildings are constructed. Septic tank absorption fields may not function properly during rainy periods because of the wetness and moderate permeability. Increasing the size of the absorption field or constructing the absorption field on a raised bed helps to compensate for these limitations.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers.

This Norfolk soil is in capability subclass IIe. The woodland ordination symbol is 8A.

OrA—Orangeburg sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on narrow to broad ridgetops in the central and southern parts of the county. Slopes are generally long and smooth. Individual areas are broad. They range from 5 to 100 acres in size.

Typically, the surface layer is dark yellowish brown sandy loam about 10 inches thick. The subsoil, to a depth of 60 inches, is yellowish red sandy clay loam in the upper part and red sandy clay loam in the lower part. In a few small areas, the surface layer is gravelly.

Important properties of Orangeburg soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Faceville, Lucy, and Red Bay soils. Faceville soils are in slightly lower landscape positions than the Orangeburg soil. They have a clayey subsoil. Lucy soils are in slightly higher positions. They have thick sandy surface and subsurface layers. Red Bay soils are in landscape positions similar to those of Orangeburg soil. They have a dark red subsoil. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops. The main limitation is the low fertility. The soil is friable and can be easily kept in good tilth. It can be worked throughout a wide range in moisture content. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. The low fertility is the main limitation. Applications of lime and fertilizer improve the soil fertility and promote the good growth of forage plants. Deferred grazing during prolonged wet or dry periods helps to prevent soil compaction and helps to keep the pasture and soil in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include sweetgum and longleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of little bluestem, panicums, yellow jessamine, greenbriar, longleaf uniola, and honeysuckle.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial competition and facilitate mechanical planting.

This soil is well suited to most urban uses, and it has no significant limitations for these uses.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants.

This Orangeburg soil is in capability class I. The woodland ordination symbol is 8A.

OrB—Orangeburg sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on side slopes in the central and southern parts of the county. Slopes are generally long and smooth. Individual areas are irregular in shape. They range from 5 to 80 acres in size.

Typically, the surface layer is dark yellowish brown sandy loam about 10 inches thick. The subsoil, to a depth of 60 inches, is yellowish red sandy clay loam in the upper part and red sandy clay loam in the lower part. In a few areas, the surface layer is gravelly.

Important properties of the Orangeburg soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Faceville, Lucy, and Red Bay soils. Faceville soils are on the lower parts of slopes. They have a clayey subsoil. Lucy soils are on slightly higher knolls and narrow ridgetops. They have thick sandy surface and subsurface layers. Red Bay soils are in landscape positions similar to those of the Orangeburg soil. They have a dark red subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is well suited to cultivated crops. The main limitations are the low fertility and the moderate hazard of erosion. Gullies form readily in areas that have a concentrated flow of water on the surface. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to additions of lime and fertilizer.

This soil is well suited to pasture and hay. The main limitations are the low fertility and the moderate hazard of erosion. Bahiagrass and coastal bermudagrass are the commonly grown grasses. Tillage should be on the contour or across the slope. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet and dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve soil fertility and promote the good growth of forage plants.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are longleaf pine and sweetgum. On the basis of a 50-year site curve, the mean site index for slash pine is 80. The understory vegetation consists mainly of little bluestem, yellow jessamine, panicums, greenbriar, honeysuckle, and longleaf uniola.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is well suited to most urban uses, and it has no significant limitations for these uses.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants.

This Orangeburg soil is in capability subclass IIe. The woodland ordination symbol is 8A.

OuC—Orangeburg-Urban land complex, 0 to 8 percent slopes

This map unit consists of the very deep, well drained Orangeburg soil and areas of Urban land in Abbeville. The areas are so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Orangeburg soil makes up about 55 percent of the map unit, and the Urban land makes up about 35 percent. Individual areas are rectangular in shape. They range from 50 to 600 acres in size.

Typically, the surface layer of the Orangeburg soil is dark yellowish brown sandy loam about 10 inches thick. The subsoil, to a depth of 60 inches, is yellowish red sandy clay loam in the upper part and red sandy clay loam in the lower part.

Important properties of the Orangeburg soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Urban land consists of areas that are covered by sidewalks, patios, driveways, parking lots, streets, playgrounds, and buildings.

Included in mapping are a few small areas of Dothan, Lucy, Red Bay, and Troup soils. Also included are small areas of soils that have slopes of more than 8 percent. Dothan soils are in slightly lower landscape positions than the Orangeburg soil. They have a yellowish brown subsoil. Lucy and Troup soils are on slightly higher positions on ridgetops. They have thick sandy surface and subsurface layers. Red Bay soils are in landscape positions similar to those of the Orangeburg soil. They have a dark red subsoil. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 5 acres in size.

Areas of the Orangeburg soil cannot be easily managed for crops, pasture, and timber or as wildlife habitat because of the limited size of the areas, the intermittent areas of Urban land, and areas of highly disturbed soils.

Areas of the Orangeburg soil are well suited to most urban uses. The soil has no significant limitations for these uses.

This map unit is not assigned to a capability subclass or a woodland ordination symbol.

PaA—Paxville loam, 0 to 2 percent slopes

This very deep, very poorly drained soil is in depressions on uplands in the southern part of the county. Slopes are smooth and concave. Most areas are subject to ponding for several weeks during winter and spring in most years. Individual areas range from 3 to 60 acres in size.

Typically, the surface layer is very dark brown loam about 10 inches thick. The subsurface layer, to a depth of 18 inches, is dark grayish brown sandy loam. The subsoil, to a depth of 56 inches, is gray sandy clay loam in the upper part and grayish brown sandy clay loam in the lower part. The substratum, to a depth of 65 inches, is light gray loamy sand.

Important properties of the Paxville soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Medium
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, from 1.0 foot above the surface to a depth of 1.0 foot from November through April
Flooding: None

Included in mapping are a few small areas of Clarendon and Dothan soils. Also included are small areas of soils that remain ponded for very long periods. Clarendon and Dothan soils are at the slightly higher elevations. They have a yellowish brown subsoil and are not subject to ponding. Included soils make up about 10 percent of the map unit, but individual areas are generally less than 3 acres in size.

Most areas of this soil are used as woodland and as habitat for wildlife. A few areas are used for cultivated crops or pasture.

This soil is poorly suited to cultivated crops, pasture, and hay. The wetness and ponding for long periods are severe limitations for these uses. If cultivated crops are grown, a drainage system is needed. If used for pasture or hay, grasses that tolerate wet soil conditions should be selected. Common bermudagrass is a suitable grass to plant.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include green ash, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 95. The understory vegetation consists mainly of panicums, gallberry, buckwheat tree, longleaf uniola, sweetbay, and greenbriar.

This soil has severe limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table and the ponding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness. It can be reduced by planting on beds or increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This soil is not suited to most urban uses. The ponding and wetness are severe limitations for most uses. If buildings and roads are constructed in areas of this soil, they should be constructed on well-compacted fill to elevate them above the expected level of ponding.

This soil has very poor potential as habitat for openland wildlife, poor potential as habitat for woodland wildlife, and good potential as habitat for wetland wildlife. Habitat for openland and woodland wildlife can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, mink, and otter.

This Paxville soil is in capability subclass VIw. The woodland ordination symbol is 11W.

Pb—Pits, borrow

This map unit consists of open excavations from which the original soil and underlying material has been removed for use at another location. Pits are scattered throughout the county. Individual areas range from 3 to 25 acres in size.

In upland areas, this map unit has provided a source of material for constructing highways and foundations and has provided fill material. Borrow pits in the uplands are mainly in areas of Orangeburg, Lucy, Red Bay, or Nankin soils. The soils have been removed to a depth of 5 to 25 feet. On stream terraces, this map unit has provided a source of sand and gravel. Borrow pits on stream terraces are mainly in areas of Kolomoki, Riverview, and Meggett soils. The soils have been removed to a depth of 5 to 15 feet.

Included in this map unit are areas of abandoned pits. These areas consist of pits and spoil banks that are 10 to 25 feet high. The surface of these areas generally is a mixture of coarse sand and gravel. Reaction is extremely acid or very strongly acid.

Most areas of this map unit support no vegetation. A few low-quality trees and sparse stands of grass are in some of the abandoned pits. This map unit is unsuited to most uses. Extensive reclamation efforts are required to make areas suitable for use as cropland, pasture, or woodland or for urban uses.

This miscellaneous area is in capability subclass VIIIs. It is not assigned a woodland ordination symbol.

Pm—Pits, mines

This map unit consists of open excavations and spoil piles resulting from bauxite and kaolin mining activities (fig. 7). The abandoned mines have short, steep slopes and high walls. Most areas are severely eroded and have numerous gullies. They support no vegetation, except for a few low-quality trees and sparse stands of grass.

Included in mapping are a few small areas of Fuquay, Nankin, and Orangeburg soils. Also included are small areas of open water and areas that have been reclaimed. Included areas make up about 10 percent of the map unit, but individual areas are generally less than 3 acres in size.

This map unit is unsuited to most uses. Extensive reclamation efforts are required to make areas suitable for use as cropland, pasture, or woodland or for urban uses.

This miscellaneous area is in capability subclass VIIIs. It is not assigned a woodland ordination symbol.

RbA—Red Bay fine sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on broad ridgetops throughout the county. Slopes are long and smooth. Individual areas are broad. They range from 5 to 60 acres in size.

Typically, the surface layer is reddish brown fine sandy loam about 7 inches thick. The subsurface layer, to a

Figure 7.—Mined areas, including this abandoned bauxite mine, make up several hundred acres of the land area in Henry County.

depth of 13 inches, is dark reddish brown sandy loam. The subsoil, to a depth of 65 inches, is dark reddish brown and dark red sandy clay loam. In a few areas, the surface layer is gravelly sandy loam.

Important properties of the Red Bay soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Greenville, Lucy, and Orangeburg soils. Greenville soils are in slightly lower landscape positions than the Red Bay soil. They have a clayey subsoil. Lucy and Orangeburg soils are in slightly higher landscape positions. Lucy soils have thick sandy surface and subsurface layers.

Orangeburg soils do not have a dark red subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few small areas are wooded.

This soil is well suited to cultivated crops. Peanuts and corn, which are generally grown in rotation, are the most common crops. The main limitation is the low fertility. The soil is friable and can be easily kept in good tilth. It can be worked throughout a wide range in moisture content. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to systematic applications of fertilizer and lime.

This soil is well suited to pasture and hay. The low fertility is the main limitation. Applications of lime and fertilizer improve the fertility of the soil and promote the good growth of forage plants. Deferred grazing during prolonged wet or dry periods helps to prevent soil compaction and helps to keep the pasture and soil in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of little bluestem, honeysuckle, yellow jessamine, greenbriar, sumac, huckleberry, and flowering dogwood.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control the initial competition and facilitate mechanical planting.

This soil is well suited to most urban uses, and it has no significant limitations for these uses.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants.

This Red Bay soil is in capability class I. The woodland ordination symbol is 9A.

RbB—Red Bay fine sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on side slopes in upland areas throughout the county. Slopes are long and smooth. Individual areas are irregular in shape. They range from 5 to 100 acres in size.

Typically, the surface layer is reddish brown fine sandy loam about 7 inches thick. The subsurface layer, to a depth of 13 inches, is dark reddish brown sandy loam. The subsoil, to a depth of 65 inches, is dark reddish brown and dark red sandy clay loam. In a few areas, the surface layer is gravelly sandy loam.

Important properties of the Red Bay soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Greenville, Lucy, Nankin, and Orangeburg soils. Greenville soils are in slightly lower landscape positions than the Red Bay soil. They have a clayey subsoil. Lucy and Orangeburg soils are in slightly higher landscape positions. Lucy soils have thick sandy surface and subsurface layers. Orangeburg soils do not have a dark red subsoil. Nankin soils are on the lower parts of slopes. They have a clayey subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few small areas are wooded.

This soil is well suited to cultivated crops. The main limitations are the low fertility and the moderate hazard of erosion. Gullies form readily in areas that have a concentrated flow of water on the surface. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Using minimum tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to additions of lime and fertilizer.

This soil is well suited to pasture and hay. The main limitations are the low fertility and the moderate hazard of erosion. Tillage should be on the contour or across the slope. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve the soil fertility and promote the good growth of forage plants.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include longleaf pine, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 90. The understory vegetation consists mainly of little bluestem, honeysuckle, yellow jessamine, greenbriar, sumac, huckleberry, and flowering dogwood.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, burning, and applying herbicide, help to control initial plant competition and facilitate mechanical planting.

This soil is well suited to most urban uses, and it has no significant limitations for these uses.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the establishment of desirable plants.

This Red Bay soil is in capability subclass IIe. The woodland ordination symbol is 9A.

RvB—Riverview fine sandy loam, 0 to 5 percent slopes, occasionally flooded

This very deep, well drained soil is on flood plains along large streams in the eastern part of the county. Most areas are occasionally flooded by fast-flowing water for brief periods, usually in late winter or early spring. Most areas are gently undulating and consist of low ridges and shallow swales. Individual areas are long and narrow. They are more than 60 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 6 inches thick. The subsoil, to a depth of 72 inches, is dark yellowish brown loam and sandy clay loam in the upper part. It is brown and strong brown sandy clay loam in the lower part.

Important properties of the Riverview soil—

Permeability: Moderate
Available water capacity: High
Organic matter content: Low
Natural fertility: Medium
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 3.0 to 5.0 feet from December through March
Flooding: Occasional

Included in mapping are a few small areas of Kolomoki and Meggett soils. Kolomoki soils are generally in higher landscape positions than the Riverview soil. They are clayey in the upper part of the subsoil. The poorly drained Meggett soils are in depressions. They are grayish and have a clayey subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland or pasture. A few large areas are used for cultivated crops.

This soil is suited to cultivated crops. The main limitations are flooding and the complex slopes. Although crops can be grown in most years, flooding delays planting or damages crops in some years. Land leveling or smoothing improves the surface drainage and increases the efficiency of farm implements.

This soil is well suited to pasture and hay. The main management concern is the occasional flooding. Cattle must to be moved to higher areas during flood periods. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soil in good condition.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are water oak, yellow-poplar, and green ash. On the basis of a 50-year site curve, the mean site index for loblolly pine is 100. The understory vegetation consists mainly of greenbriar, little bluestem, and panicums.

This soil has few limitations affecting the production of timber, although plant competition is a minor management concern. Using proper site preparation and spraying, cutting, or girdling can eliminate unwanted weeds, brush, and trees. Harvesting activities should be planned during the summer and fall to avoid the delays and damage caused by flooding.

This soil is poorly suited to most urban uses. The flooding is a severe limitation that is difficult to overcome. If buildings are constructed in areas of this soil, they should be placed on pilings or on well-compacted fill material to elevate them above the expected flood level.

This soil has good potential as habitat for openland and woodland wildlife and poor potential as habitat for wetland wildlife. Habitat for woodland wildlife can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Habitat for openland wildlife can be improved by planting grasses and other seed-producing plants around cropland and pasture. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, mink, and otter.

This Riverview soil is in capability subclass IIw. The woodland ordination symbol is 11A.

TrB—Troup loamy fine sand, 0 to 5 percent slopes

This very deep, somewhat excessively drained soil is on narrow to broad ridgetops throughout the county. Slopes are generally long and smooth. Individual areas are irregular in shape. They range from 5 to 100 acres in size.

Typically, the surface layer is brown loamy fine sand about 5 inches thick. The subsurface layer, to a depth of 44 inches, is yellowish brown loamy fine sand in the upper part and yellowish red loamy sand in the lower part. The subsoil, to a depth of 65 inches, is red sandy clay loam.

Important properties of the Troup soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Orangeburg, Nankin, and Tumbleton soils. Lucy soils are in landscape positions similar to those of the Troup soil. They have sandy surface and subsurface layers ranging from 20 to 40 inches thick. Orangeburg soils are in slightly higher landscape positions. They do not have thick sandy surface and subsurface layers. Nankin and Tumbleton soils are on the lower parts of slopes. They have a clayey subsoil and do not have thick sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used for cultivated crops, pasture, or hay. A few areas are used as sites for homes, and a few areas are wooded.

This soil is suited to cultivated crops. The main limitations are the low fertility, the low available water capacity, and the moderate hazard of erosion. Irrigation can prevent crop damage and increase productivity in most years. Returning crop residue to the soil helps to maintain tilth and increases the water-holding capacity. Contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Most crops respond well to applications of lime and frequent, light applications of fertilizer.

This soil is well suited to pasture and hay. Coastal bermudagrass and bahiagrass are well suited to this soil. The main limitations are the low fertility and the low available water capacity. The leaching of plant nutrients is a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are water oak and longleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of common persimmon, greenbriar, American holly, little bluestem, blackjack oak, and flowering dogwood.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This soil is well suited to most urban uses. The thick, sandy surface layer, the low fertility, and the low available water capacity are management concerns. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This soil has fair potential as habitat for openland wildlife, poor potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. The low available water capacity and the low natural fertility are limitations for improving the potential as habitat for wildlife. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

This Troup soil is in capability subclass IIIs. The woodland ordination symbol is 8S.

TrD—Troup loamy fine sand, 5 to 12 percent slopes

This very deep, well drained soil is on side slopes throughout the county. Slopes are generally short and complex, but they may be long and smooth. Individual areas are irregular in shape. They range from 5 to 100 acres in size.

Typically, the surface layer is brown loamy fine sand about 5 inches thick. The subsurface layer, to a depth of 44 inches, is yellowish brown loamy fine sand in the upper part and yellowish red loamy sand in the lower part. The subsoil, to a depth of 65 inches, is red sandy clay loam.

Important properties of the Troup soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Muckalee, Nankin, Orangeburg, and Tumbleton soils. Lucy and Orangeburg soils are on the high parts of narrow ridges. Lucy soils have sandy surface and subsurface layers ranging from 20 to 40 inches thick. Orangeburg soils do not have thick sandy surface and subsurface layers. The poorly drained Muckalee soils are on narrow flood plains. Nankin and Tumbleton soils are on the lower parts of slopes. They have a clayey subsoil and do not have thick sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland. A few areas are used for cultivated crops or pasture.

This soil is poorly suited to cultivated crops. The short, complex slopes, the low fertility, the low available water capacity, and the severe hazard of erosion are the main limitations. Minimum tillage and cover crops reduce the runoff rate and help to control erosion. Tillage should be on the contour or across the slope. Most crops respond well to systematic applications of fertilizer and lime.

This soil is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well suited to this soil (fig. 8). The main management concerns are the low fertility and the severe hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition.

This soil is suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil include water oak and longleaf pine. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of common persimmon, greenbriar, American holly, little bluestem, blackjack oak, and flowering dogwood.

This soil has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This soil is suited to most urban uses. The slope is a limitation for some uses. Additional management concerns include the thick, sandy surface layer, the low fertility, and the low available water capacity. If buildings are constructed, only the part of the site that is used for construction should be disturbed. Cutbanks are unstable and are subject to slumping. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This soil has fair potential as habitat for openland wildlife, poor potential as habitat for woodland wildlife, and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

This Troup soil is in capability subclass VIs. The woodland ordination symbol is 8S.

TsE—Troup-Nankin complex, 12 to 35 percent slopes

This map unit consists of the very deep, somewhat excessively drained Troup soil and the very deep, well drained Nankin soil. It is on narrow ridges and side slopes in the central and southern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for

Figure 8.—An area of Troup loamy fine sand, 5 to 12 percent slopes. This soil is well suited as hayland, and areas are capable of producing high yields of coastal bermudagrass hay.

mapping. The Troup soil makes up about 45 percent of the map unit, and the Nankin soil makes up about 35 percent. Slopes are generally short and complex. Individual areas are irregular in shape. They range from 100 to 500 acres in size.

The Troup soil is generally on the upper parts of slopes. Typically, the surface layer is brown loamy fine sand about 5 inches thick. The subsurface layer, to a depth of 44 inches, is yellowish brown loamy fine sand in the upper part and yellowish red loamy sand in the lower part. The subsoil, to a depth of 65 inches, is red sandy clay loam.

Important properties of the Troup soil—

Permeability: Rapid in the surface layer and subsurface layer; moderate in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

The Nankin soil is generally on the lower parts of slopes. Typically, the surface layer is yellowish brown loamy sand about 9 inches thick. The subsoil, to a depth of 54 inches, is yellowish red clay loam in the upper part and yellowish red clay that has mottles in shades of brown, gray, and yellow in the lower part. The substratum, to a depth of 65 inches, is yellowish red sandy loam that has strata of sandy clay loam.

Important properties of the Nankin soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Lucy, Muckalee, and Tumbleton soils. Lucy soils are in landscape positions similar to those of the Troup soil. They have sandy surface and subsurface layers ranging from 20 to 40 inches thick. The poorly drained Muckalee soils are on narrow flood plains. Tumbleton soils are in landscape positions similar to those of Nankin soil. They have a yellowish brown, clayey subsoil. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are used as woodland. A few small areas are used as pasture.

This map unit is unsuited to most cultivated crops. The complex topography and the strongly sloping to steep slopes are severe limitations for the use of equipment. Erosion is a severe hazard. The sandy texture and droughtiness are additional limitations in areas of the Troup soil. If the soils are cultivated, all tillage should be on the contour or across the slope.

This map unit is poorly suited to pasture and hay. The steep, complex slopes and the severe hazard of erosion are the main limitations. The seedbed should be prepared on the contour or across the slope if practical. Drought-tolerant grasses are best suited to areas of the Troup soil, and native grasses are best suited to the more steeply sloping areas.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils include longleaf pine, water oak, and sweetgum. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of greenbriar, muscadine grape, flowering dogwood, and panicums.

This map unit has moderate limitations for the management of timber. The main limitations are the hazard of erosion, the equipment limitation, the seedling mortality rate, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, and exposed soil surfaces are subject to rill and gully erosion. Roads, landings, and skid trails can be protected against erosion by constructing diversions, mulching, and seeding. The slope restricts the use of equipment. Using standard wheeled and tracked equipment results in rutting and increases the hazard of erosion. Cable yarding systems are safer and damage the soil less. The high seedling mortality rate in areas of the Troup soil is caused by droughtiness. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This map unit is poorly suited to most urban uses. They have severe limitations for building sites, local roads and streets, and most kinds of sanitary facilities. The main limitations are the slope and the moderately slow permeability in the Nankin soil. Erosion is a hazard in the steeper areas. Only the part of the site that is used for construction should be disturbed. Access roads can be designed so that surface runoff is controlled and cut slopes are stabilized. The moderately slow permeability in the Nankin soil increases the probability that septic tank absorption fields will fail. Alternative methods of sewage disposal should be used, or the absorption lines should be constructed in areas of the Troup soil.

This map unit has fair potential as habitat for openland wildlife and very poor potential as habitat for wetland wildlife. It has poor potential as habitat for woodland wildlife in areas of the Troup soil and good potential in areas of the Nankin soil. Habitat can be improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey.

The Troup and Nankin soils are in capability subclass VIIe. The woodland ordination symbol is 8R.

TuB2—Tumbleton sandy loam, 2 to 5 percent slopes, eroded

This very deep, well drained soil is on ridgetops and on the upper parts of side slopes throughout the county. In most areas, the surface layer is a mixture of the original surface layer and material from the subsoil. In some places, all of the original surface layer has been removed. Some areas have a few rills and shallow gullies. Slopes are generally short and complex. Individual areas are irregular in shape. They range from 10 to 80 acres in size.

Typically, the surface layer is dark brown sandy loam about 4 inches thick. The subsoil, to a depth of 56 inches, is yellowish brown and brownish yellow sandy clay and clay in the upper part and brownish yellow and yellowish brown clay that has gray and red mottles in the lower part. The substratum, to a depth of 72 inches, is stratified yellow loamy sand and yellowish brown clay.

Important properties of the Tumbleton soil—

Permeability: Slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet deep
Flooding: None

Included in mapping are a few small areas of Dothan, Fuquay, and Orangeburg soils. Dothan, Fuquay, and Orangeburg soils are in slightly higher landscape positions than the Tumbleton soil. Dothan soils are loamy throughout and have plinthite in the lower part of the subsoil. Fuquay soils have thick sandy surface and subsurface layers. Orangeburg soils are loamy throughout. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this soil are used as woodland or pasture. A few areas are used for cultivated crops or hay.

This soil is suited to cultivated crops. The main management concerns are the low fertility, the poor tilth, and the severe hazard of erosion. Terraces, contour farming, minimum tillage, and cover crops reduce the runoff rate and help to control erosion. Using a sod-based rotation system and incorporating crop residue into the soil increase the content of organic matter and improve tilth. Most crops respond well to systematic applications of lime and fertilizer.

This soil is well suited to pasture and hay, and it has few limitations for these uses. Erosion is a hazard when the soil surface is bare during the establishment of pastures. Tillage should be on the contour or across the slope to reduce soil losses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soil in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This soil is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of this soil are sweetgum and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80. The understory vegetation consists mainly of little bluestem, panicums, yellow jessamine, greenbriar, longleaf uniola, and honeysuckle.

This soil has few limitations affecting woodland management; however, competition from understory plants is a minor management concern. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation, such as chopping, burning, and applying herbicide, help to control the initial plant competition and facilitate mechanical planting.

This soil is suited to most urban uses. It has moderate limitations for building sites or local roads and streets and has moderate to severe limitations for most sanitary facilities. The main limitations are the slow permeability, the moderate shrink-swell potential, and the low strength if used as a site for roads and streets. Septic tank absorption fields may not function properly because of the slow permeability. Increasing the size of the absorption area or using an alternative method of waste disposal helps to overcome this limitation. The effects of shrinking and swelling can be minimized by using proper engineering designs and by backfilling with material that has a low shrink-swell potential. If roads and streets are constructed in areas of this soil, they should be designed to compensate for the low strength and instability of the subsoil.

This soil has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

This Tumbleton soil is in capability subclass IVe. The woodland ordination symbol is 8A.

TyD—Tumbleton-Fuquay complex, 5 to 12 percent slopes

This map unit consists of the very deep, well drained Tumbleton and Fuquay soils on side slopes and narrow ridges. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Tumbleton soil makes up about 45 percent of the map unit, and the Fuquay soil makes up about 35 percent. Slopes are short and complex. Individual areas are irregular in shape. They range from 20 to 150 acres in size.

The Tumbleton soil is on the middle and lower parts of slopes. Typically, the surface layer is dark brown sandy loam about 4 inches thick. The subsoil, to a depth of 56 inches, is yellowish brown and brownish yellow sandy clay and clay in the upper part and brownish yellow and yellowish brown clay that has gray and red mottles in the lower part. The substratum, to a depth of 72 inches, is stratified yellow loamy sand and yellowish brown clay.

Important properties of the Tumbleton soil—

Permeability: Slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Moderate
Seasonal high water table: More than 6 feet deep
Flooding: None

The Fuquay soil is on upper parts of slopes and on narrow ridgetops. Typically, the surface layer is brown loamy sand about 8 inches thick. The subsurface layer, to a depth of 32 inches, is brownish yellow loamy sand. The subsoil, to a depth of 65 inches, is yellowish brown sandy loam in the upper part and brownish yellow sandy clay loam that has brown and red mottles in the lower part. The content of plinthite in the lower part of the subsoil is 20 percent, by volume.

Important properties of the Fuquay soil—

Permeability: Rapid in the surface layer and subsurface layer; slow in the subsoil
Available water capacity: Low
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Perched at a depth of 4.0 to 6.0 feet from January through March
Flooding: None

Included in mapping are a few small areas of Bonifay, Dothan, Muckalee, and Orangeburg soils. Bonifay soils are in landscape positions similar to those of the Fuquay soil. They have sandy surface and subsurface layers more than 40 inches thick. Dothan and Orangeburg soils are on the higher parts of narrow ridges. They are loamy throughout and do not have thick sandy surface and subsurface layers. The poorly drained Muckalee soils are on narrow flood plains. They are grayish throughout. Included soils make up about 15 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are used as woodland. A few areas are used for cultivated crops, pasture, or hay.

This map unit is poorly suited to cultivated crops. The short, complex slopes, the low fertility, and the severe hazard of erosion are the main limitations. Minimum tillage and cover crops help to control runoff and erosion. Tillage should be on the contour or across the slope. Most crops respond well to systematic applications of fertilizer and lime.

This map unit is suited to pasture and hay. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. The main management concerns are the low fertility and the severe hazard of erosion. The seedbed should be prepared on the contour or across the slope if practical. Applications of lime and fertilizer improve fertility and increase the production of forage. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition.

This map unit is well suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils are longleaf pine, sweetgum, and water oak. On the basis of a 50-year site curve, the mean site index for loblolly pine is 80 for the Tumbleton soil and 90 for the Fuquay soil. The understory vegetation consists mainly of little bluestem, panicums, yellow jessamine, greenbriar, longleaf uniola, and honeysuckle.

This map unit has moderate limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The sandy surface layer of the Fuquay soil restricts the use of wheeled equipment, especially when the soil is dry. Harvesting activities should be planned during seasons of the year when the soil is moist. The moderate seedling mortality rate is caused by droughtiness in the Fuquay soil. It can be reduced by increasing the tree planting rate. Plant competition from undesirable plants reduces the growth of trees and can prevent adequate natural or artificial reforestation. The competing vegetation can be controlled by site preparation that eliminates the unwanted vegetation.

This map unit is suited to most urban uses. It has moderate to severe limitations for building sites, local roads and streets, and most sanitary facilities. The main limitations are the slope and the slow permeability. Other limitations of the Tumbleton soil include the moderate shrink-swell potential and the low strength if used as a site for roads and streets. Septic tank absorption fields may not function properly because of the slow permeability. Increasing the size of the absorption field helps to overcome this limitation. Erosion is a hazard in the steeper areas. Only the part of the site that is used for construction should be disturbed. Access roads can be designed so that surface runoff is controlled and cut slopes are stabilized.

This map unit has good potential as habitat for openland and woodland wildlife and very poor potential as habitat for wetland wildlife. Habitat for deer, turkey, and squirrel can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and seed-producing plants for quail and turkey. Habitat for openland wildlife can be improved by leaving undisturbed areas of vegetation around cropland and pasture to provide food and nesting areas.

The Tumbleton soil is in capability subclass IVe, and the woodland ordination symbol is 8A. The Fuquay soil is in capability subclass IVs, and the woodland ordination symbol is 9S.

YMA—Yonges and Muckalee soils, 0 to 2 percent slopes, frequently flooded

This map unit consists of very deep, poorly drained soils on smooth to gently undulating flood plains. The soils are subject to flooding for brief periods several times each year. The composition of this map unit is variable, but the mapping was sufficiently controlled to evaluate the soils for the expected uses. Some areas mainly consist of Yonges soil, some areas mainly consist of Muckalee soil, and other areas contain both soils in variable proportions. Individual areas are usually long and narrow. They range from 20 to 500 acres in size.

The Yonges soil makes up about 50 percent of the map unit. Typically, the surface layer is very dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer, to a depth of 14 inches, is light brownish gray fine sandy loam. The subsoil, to a depth of 45 inches, is light brownish gray sandy clay loam that has yellow and brown mottles. The substratum, to a depth of 72 inches, is light brownish gray sandy clay that has strata of gray sandy clay loam and loamy sand.

Important properties of the Yonges soil—

Permeability: Moderately slow
Available water capacity: High
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at the surface to a depth of 1.0 foot from November through April
Flooding: Frequent

The Muckalee soil makes up about 25 percent of the map unit. Typically, the surface layer is grayish brown sandy loam about 6 inches thick. The substratum, to a depth of 72 inches, is grayish brown loamy sand in the upper part, dark grayish brown sandy loam in the next part, and dark grayish loamy sand in the lower part.

Important properties of the Muckalee soil—

Permeability: Moderate
Available water capacity: Medium
Organic matter content: Low
Natural fertility: Low
Root zone: More than 60 inches
Shrink-swell potential: Low
Seasonal high water table: Apparent, at a depth of 0.5 foot to 1.5 feet from December through March
Flooding: Frequent

Included in mapping are a few small areas of Bigbee, Goldsboro, Mantachie, and Riverview soils. Bigbee and Riverview soils are on the high parts of natural levees adjacent to stream channels. The excessively drained Bigbee soils are sandy throughout. The well drained Riverview soils do not have gray colors in the upper part of the subsoil. Goldsboro soils are on higher positions on terraces. They do not have gray colors in the upper part of the subsoil. Mantachie soils are on slightly higher parts of the flood plain than the Muckalee and Yonges soils. They are not dominantly gray in the upper part of the subsoil. Included soils make up about 25 percent of the map unit, but individual areas are generally less than 5 acres in size.

Most areas of this map unit are wooded and are used for wildlife habitat. A few small areas are used for pasture.

This map unit is poorly suited to cultivated crops. The frequent flooding and the wetness are the main limitations. If cultivated crops are grown, a surface drainage system and protection from flooding are needed.

This map unit is poorly suited to pasture and hay because of the frequent flooding and the wetness. If areas are used for pasture or hay, grasses that tolerate wet soil conditions should be selected. Common bermudagrass is a suitable grass to plant. Shallow ditches help to remove excess water from the surface.

This map unit is suited to loblolly pine and slash pine. Other species that commonly grow in areas of these soils

Figure 9.—An area of Yonges and Muckalee soils, 0 to 2 percent slopes, frequently flooded. This map unit is suited to bottomland hardwood timber. It provides habitat for many species of woodland and wetland wildlife.

include water oak and green ash. On the basis of a 50-year site curve, the mean site index for loblolly pine is 100 for the Yonges soil and 90 for the Muckalee soil. The understory vegetation consists mainly of maidencane, buckwheat tree, tupelo gum, longleaf uniola, sweetbay, dwarf palmetto, and greenbriar.

This map unit has severe limitations for the management of timber. The main limitations are the restricted use of equipment, the seedling mortality rate, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Using low-pressure ground equipment reduces damage to the soils and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness. It can be reduced by planting on beds or increasing the tree planting rate. Plant competition from undesirable plants can prevent adequate natural or artificial reforestation without intensive site preparation and maintenance. Site preparation controls the initial plant competition, and herbicides can be used to control the subsequent growth.

This map unit is poorly suited to most urban uses. The flooding and wetness are severe limitations for most uses. Although it is generally not feasible to control flooding, buildings can be placed on pilings or on well-compacted fill to elevate them above the expected flood level.

This map unit has poor potential as habitat for openland wildlife, fair potential as habitat for woodland wildlife, and fair potential as habitat for wetland wildlife (fig. 9). Habitat for openland and woodland wildlife can be improved by planting or encouraging the growth of existing oak trees and suitable understory plants. Habitat for wetland wildlife can be improved by constructing shallow ponds to provide open water areas for waterfowl and furbearers, such as muskrat, mink, and otter.

The Yonges and Muckalee soils are in capability subclass Vw. The woodland ordination symbol is 11W for the Yonges soil and 9W for the Muckalee soil.

Prime Farmland

In this section, prime farmland is defined, and the soils in Henry County that are considered prime farmland 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. 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 food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. The moisture supply must be adequate, and the growing season must be sufficiently long. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources. Farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They are used for 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 receive 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 frequently flooded during the growing season. The slope ranges mainly from 0 to 5 percent.

The following map units are considered prime farmland in Henry 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 5. 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.

The soils identified as prime farmland in Henry County are:

CaA	Clarendon sandy loam, 0 to 2 percent slopes
DoA	Dothan fine sandy loam, 0 to 2 percent slopes
DoB	Dothan fine sandy loam, 2 to 5 percent slopes
FaB2	Faceville sandy loam, 2 to 5 percent slopes, eroded
GoA	Goldsboro loamy sand, 0 to 2 percent slopes
GrA	Greenville fine sandy loam, 0 to 2 percent slopes
GrB	Greenville fine sandy loam, 2 to 5 percent slopes
KoB	Kolomoki fine sandy loam, 0 to 3 percent slopes, rarely flooded
NaB2	Nankin sandy clay loam, 2 to 5 percent slopes, eroded
NoA	Norfolk loamy sand, 0 to 2 percent slopes
NoB	Norfolk loamy sand, 2 to 5 percent slopes
OrA	Orangeburg sandy loam, 0 to 2 percent slopes
OrB	Orangeburg sandy loam, 2 to 5 percent slopes
RbA	Red Bay fine sandy loam, 0 to 2 percent slopes
RbB	Red Bay fine sandy loam, 2 to 5 percent slopes
RvB	Riverview fine sandy loam, 0 to 5 percent slopes, occasionally flooded
TuB2	Tumbleton sandy loam, 2 to 5 percent slopes, eroded

Use and Management of the Soils

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

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

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational 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 and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Crops and Pasture

Michael C. Harris and Kenneth M. Rogers, conservation agronomists, Natural Resources Conservation Service, helped to 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 Natural Resources 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 the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 1980, approximately 105,000 acres of cropland and 29,000 acres of pasture were in Henry County *(3, 18)*. Approximately 37,000 acres of peanuts, 24,500 acres of corn, 19,000 acres of soybeans, 9,000 acres of grain sorghum, and 6,500 acres of wheat were planted in Henry County in 1982. Also, 5,500 acres of hay and 210,000 pounds of pecans were harvested *(18)*. A small acreage of truck crops is grown in the southern part of the county. The total acreage used for cultivated crops and pasture has been decreasing slightly for several years. The current trend is toward the conversion of marginal cropland to woodland, especially in the northern part of the county.

The potential in Henry County for the increased production of food and fiber is good. About 60,000 acres of land that is currently used for pasture and woodland is potentially good cropland *(1)*. The yields can be increased in cultivated areas if the most current technology is applied. This soil survey can help land users make sound land management decisions and facilitate the application of crop production technology.

The field crops that are suited to the soils and climate in Henry County include many crops that are not commonly grown because of economic considerations. Peanuts, corn, and soybeans are the main row crops. Grain sorghum, vegetable crops, and similar crops can be grown if economic conditions are favorable. Wheat, rye, and oats are the only close-growing crops currently planted for grain production, although barley can be grown. The specialty crops grown in the county include sweet corn, peas, okra, melons, sod, and alfalfa. Many of the soils in the survey area, including Greenville, Dothan, Red Bay, and Orangeburg soils, are well suited to specialty crops. If economic conditions are favorable, a large acreage of these crops can be grown. Pecans are the only orchard crop that is grown commercially in the county. Additional information regarding specialty crops can be obtained from the local office of the Cooperative Extension Service or the Natural Resources Conservation Service.

Soil erosion is a major management concern on about one-fourth of the cropland and one-half of the pastureland in Henry County *(1)*. If the slope is more than two percent, erosion is a potential hazard. Dothan, Greenville, Orangeburg, and Red Bay soils are some of the sloping soils that are presently cultivated and that are subject to erosion.

Soil erosion can reduce productivity and can result in the pollution of streams. Productivity is reduced as the surface layer of the soil erodes and more of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as Conecuh, Greenville, Nankin, and Tumbleton soils, and on soils that have a plinthic layer in the subsoil that restricts rooting depth, such as Clarendon and Dothan soils. Controlling erosion on farmland minimizes the pollution of streams and improves the quality of water for municipal uses, for recreational uses, and for fish and wildlife.

Erosion-control practices provide a protective plant cover, increase the rate of water infiltration, and help to control runoff. A cropping system that keeps plant cover and crop residue on the surface for extended periods can hold soil losses to amounts that will not reduce the productive capacity of the soils. Including grasses and legumes in the cropping system helps to control erosion in sloping areas and improves tilth for the crops that follow in the rotation. The legumes also increase the nitrogen levels in the soils.

Applying a system of conservation tillage and leaving crop residue on the surface increase the rate of water infiltration and help to control runoff and erosion. Using a no-till method of planting reduces the hazard of erosion in sloping areas, and this practice is suitable on most of the soils in the county.

Terraces and diversions help to control runoff and erosion. They are most practical on very deep, well drained soils that have uniform slopes, such as Greenville, Dothan, and Red Bay soils. Sandy soils, such as Bonifay, Lucy, Fuquay, and Troup soils are not suitable for terracing because gullies form easily when water is concentrated on the surface. Grassed waterways or underground tile outlets are essential in areas where terraces and diversions are installed. Diversions can be used to intercept surface runoff from hilly uplands and to divert the water around the fields to vegetated disposal areas.

Contour farming is a very effective erosion-control method in cultivated areas when it is used in conjunction with a water-disposal system. It is best suited to soils that have smooth, uniform slopes, such as Greenville, Dothan, Orangeburg, and Red Bay soils.

Soil blowing can be a management concern in early spring on some upland soils, especially if the soils are dry and are not protected by a plant cover. The hazard of erosion is generally highest after the seedbed has been prepared, after planting, and when the plants are small. Tillage methods that leave crop residue on the surface reduce the hazard of soil blowing. Conventional planting practices should include an implement that scratches the surface, leaving a rough, irregular pattern. Also, strips of close-growing crops are effective as windbreaks. If possible, seedbed preparation should be delayed until after March, which is generally windy. Additional information regarding the design of erosion-control practices is available at the local office of the Natural Resources Conservation Service.

Henry County has an adequate amount of rainfall for the crops commonly grown. Prolonged periods of drought are rare, but the distribution of rainfall during spring and summer generally results in droughty periods during the growing season in most years. Irrigation may be needed during these periods to reduce plant stress. Most of the soils that are commonly used for cultivated crops are suitable for irrigation; however, the amount of water applied should be regulated to prevent excessive runoff. Some soils, such as Nankin and Conecuh soils, have a slow rate of water infiltration that limits their suitability for irrigation.

Most of the soils used for crops in Henry County have a surface layer of sandy loam, which is light in color and has a low content of organic matter. Regular additions of crop residue, manure, and other organic material can improve the soil structure and reduce crust formation, thus improving the rate of water infiltration.

Natural fertility is low in most of the soils in Henry County. All of the soils require applications of agricultural limestone to neutralize soil acidity. The crops grown in the county respond well to applications of lime and fertilizer. The levels of available phosphorus and potash are generally low in most of the soils; however, some fields may have a buildup of phosphorus or potassium because of past applications of commercial fertilizer. Therefore, all applications of lime and fertilizer should be based on the results of a soil test. Leaching is a concern in areas of sandy soils, such as Bonifay, Bonneau, Lucy, Fuquay, and Troup soils. Higher levels of nitrogen, applied in split applications, should be used on these soils. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Soil wetness is a management concern in areas of

Albany, Mantachie, Meggett, Muckalee, Paxville, and Yonges soils. A drainage system is needed to minimize the harmful effects of excess wetness.

Bahiagrass and coastal bermudagrass are the main perennial grasses grown for pasture and hay in Henry County. Rye, ryegrass, and wheat are grown as annual cool-season grass forage. Millet, sorghum, and hybrid forage sorghums provide most of the annual warm-season grass forage. These annuals are generally grown in areas of cropland for temporary grazing or for hay. Arrowleaf clover, crimson clover, ball clover, and other cool-season legumes are suited to most of the soils in the county, especially if agricultural limestone is applied in proper amounts. Alfalfa, a warm-season legume, is well suited to well drained soils, such as Greenville, Dothan, Red Bay, and Orangeburg soils.

Several management practices are needed on all of the soils that are used for pasture and hay production. These practices include proper grazing, control of weeds, proper fertilization, rotation grazing, and scattering of animal droppings. Overgrazing, low rates of fertilization, and acid soils are the main concerns for pasture management. They can result in weak plants and poor stands that are quickly infested with weeds. Maintaining a good, dense cover that has the desired pasture species can prevent weeds from becoming established.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 6 and 7. 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 ensures 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 the tables are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for 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 rangeland, for woodland, or 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.

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, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main hazard is the 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); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

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, s,* or *c*.

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

Landscaping and Gardening

Kenneth M. Rogers and Michael C. Harris, conservation agronomists, Natural Resources Conservation Service, helped to prepare this section.

The land in residential areas is used primarily as homesites and for driveways and streets. Remaining areas of each lot are commonly used for lawns, which enhance the appearance of the home; as gardens for vegetables or flowers and shrubs; as orchards for fruits and nuts; for recreational uses; as habitat for animals and birds; for trees, which provide shade and promote energy conservation; for vegetation and structures designed to abate noise, enhance privacy, and provide protection from the wind; and for septic tank absorption fields. Because the outdoor areas are used for several purposes, careful planning and a good understanding of the soils are important.

This section contains general soil-related information for landscaping and gardening. Other information, especially that which is not directly related to the soils, may be obtained from the local office of the Cooperative Extension Service, the Natural Resources Conservation Service, and private businesses that provide landscaping and related services. The amount of soil information needed for some areas is beyond the scope of this survey and is more detailed than the map scale used. For this reason, onsite investigation is recommended.

Most of the soils in the residential areas of Henry County have been disturbed to some degree during construction of houses, streets, driveways, and utility services. This construction involved cutting and filling, grading, and excavating. As a result, soil properties are more variable and less predictable than they are in undisturbed areas. Onsite examination is necessary in planning land uses for soils in disturbed areas.

Some of the poorest soils for plant growth are Conecuh, Faceville, Greenville, Nankin, and Tumbleton soils that had the surface layer removed during grading. The exposed, dense, firm subsoil restricts root penetration, absorbs little rainfall, and results in excessive runoff. These conditions are common where these soils and similar soils are mapped as a complex with Urban land. Incorporating organic matter into the soil improves tilth, increases the rate of water infiltration, and provides a more desirable rooting medium. Areas that are subject to intensive foot traffic should be covered with gravel or a mulch, such as pine bark or wood chips.

Some soils, such as Yonges and Muckalee soils, are wet. The wetness limits the selection of plants to those that are tolerant of a high moisture content in the soil. Several methods can be used to minimize the effects of soil wetness. Installing underground tile drains can lower the water table in permeable soils. Bedding the surface layer of slowly permeable soils, such as Meggett soils, helps to provide a satisfactory root zone for some plants.

Some soils, such as Bigbee and Riverview soils, are on flood plains. Most plants used for gardening and landscaping can be grown on these soils, but consideration should be given to the effects of floodwater. Surface drainage is a management concern because urban uses often result in increased surface runoff rates, which increase the frequency and severity of flooding. Advice and assistance in solving drainage problems can be obtained from the Natural Resources Conservation Service, municipal and county engineering departments, and private engineering companies.

Sandy soils, such as Albany, Bigbee, Bonifay, Fuquay, Lucy, and Troup soils, are droughty, have low fertility, and have a low content of organic matter. Droughtiness limits the selection of plants that will grow unless irrigation is provided. Additions of organic matter increase the water-holding capacity and help to retain nutrients in the rooting zone. Supplemental watering and split applications of plant nutrients are recommended. Using a mulch, such as pine bark, wood chips, or pine straw, or incorporating peat moss or well-decomposed manure into the soil provides a more desirable medium for plant growth.

Natural fertility is low in most of the soils in Henry County. Most of the soils are strongly acid or very strongly acid. Additions of ground limestone are needed to neutralize the acidity of most of the soils. The original surface layer contains the most plant nutrients and has the most favorable pH for most plants. In many areas, fertility of the surface layer has been improved by applications of lime and fertilizer. If the surface layer is removed during construction, the remaining soil is very acid and is low in available plant nutrients. Also, some nutrients are unavailable for plant growth in acid soil conditions. Disturbed soils generally need large amounts of lime and fertilizer, which should be applied according to the results of soil tests and the type of plants grown. Information on sampling for soil testing can be obtained from the Cooperative Extension Service, the Natural Resources Conservation Service, and local nurseries.

In the following paragraphs, some of the plants that are used in landscaping and gardening and some management relationships between the plants and the soils are described. Information in this section should be supplemented by consultations with specialists in the Cooperative Extension Service, the Natural Resources Conservation Service, and private landscaping and gardening businesses.

The grasses used for landscaping in Henry County are mainly vegetatively propagated species, such as zoysiagrass, hybrid bermudagrass, St. Augustinegrass, centipedegrass, and seeded species, such as common bermudagrass and centipedegrass. The grasses commonly used for short-term cover include ryegrass, rye, wheat, sudangrass, and millet.

The vegetatively propagated plants are usually planted as sprigs, plugs, or sod. Additions of topsoil may be needed before planting in some areas. Also, lime and fertilizer should be applied and incorporated into the soil. The plants should be placed in close contact with the soil, and the plantings should be watered to ensure the establishment of the root system. St. Augustinegrass, centipedegrass, and certain strains of zoysiagrass are moderately shade tolerant. St. Augustinegrass and zoysiagrass normally require more maintenance than centipedegrass. The strains of hybrid bermudagrass are fast growing, but they are not as tolerant of shade as St. Augustinegrass, centipedegrass, or zoysiagrass.

Common perennial grasses that are established by seeding include common bermudagrass and centipedegrass. Lime and fertilizer should be applied and incorporated into the soil before seeding. Proper planting depth is important when grasses are established from seed.

Short-term vegetative cover is used to protect the soil at construction sites or to provide cover between the planting seasons of the desired grass species. The most commonly used grasses for short-term cover are ryegrass for cool seasons and sudangrass or millet for warm seasons. These species are annuals and die after the growing season. Periodic applications of lime and fertilizer are needed on all types of grasses. The kinds and amounts of lime and fertilizer to apply should be based on the results of soil tests.

Vines can be used to provide vegetative cover in moderately shaded areas and on steep slopes that cannot be mowed. English ivy and periwinkle can be used for ground cover. These plants also can be used on walls and fences. All of these plants are propagated vegetatively, usually from potted plants or sprigs.

Mulches can be used for ground cover in areas where traffic is too heavy for grass cover, in areas where shrubs and flowers are desired with additional ground cover, and in densely shaded areas. Mulches provide effective ground cover. They also provide immediate cover for erosion control in areas where no live vegetation is desired. Effective mulches include pine straw, small-grain straw, hay, composted grass clippings, wood chips, pine bark, gravel, and several manufactured materials. The type of mulch to use depends to some extent on the hazard of erosion. Mulches also can be used to conserve soil moisture and control weeds around trees, shrubs, and flowers.

Shrubs are used primarily to enhance the appearance of homesites. They also can be used to control traffic. They can be effective in dissipating the energy from raindrops and from runoff from roofs of houses. Most native and adapted species add variety to residential settings. Reaction to acidity and fertility levels vary greatly among shrub types.

Vegetable and flower gardens are important to many individuals and businesses. However, the soils in areas where homes and businesses are established may not be suited to vegetables and flowers. Soils that have been disturbed by construction may not be productive unless topsoil is applied. Soils that have slopes of more than 8 percent have poor potential for vegetable gardening because of the hazard of erosion if the soils are tilled. Generally, soils on steep slopes have a thin surface layer. Flower gardening is possible on steep slopes, however, if mulches are used to help control erosion.

Gardens in which composted tree leaves and grass clippings have been incorporated into the soil generally are fertile and friable and have good moisture content. Additional information on vegetable crops is included under the heading “Crops and Pasture.”

Most garden plants grow best in soils that have a pH level between 5.5 and 6.5. The fertility level should be high. Many gardeners apply too much fertilizer or have used fertilizers with the wrong combination of plant nutrients. Soil testing is the only effective way to determine how much and what type of fertilizer to apply. Soil testing information can be obtained from the local office of the Cooperative Extension Service, the Natural Resources Conservation Service, or from retail fertilizer businesses.

Trees are important in homesite landscaping. Information on relationships between soils and trees is available in the section “Woodland Management and Productivity.” Special assistance in urban forestry can be obtained from the Alabama Forestry Commission.

Woodland Management and Productivity

Jerry L. Johnson, forester, Natural Resources Conservation Service, helped prepare this section.

Forestry is an important industry in Henry County, and forest products make up a significant portion of the economy. Forestry ranks second, behind the production of peanuts, in the production value of agricultural commodities in Henry County *(2)*.

Commercial forest land makes up 195,400 acres, or about 54 percent of the total land area in Henry County. The forested acreage increased about 7 percent from 1972 to 1982, primarily because of the conversion of cropland and pasture to forest land. Private landowners own 79 percent of the forest land in the county. Of this privately owned acreage, about 35 percent is owned by farmers. The forest industry owns the remaining 21 percent of the forest land *(3)*.

The forest types in Henry County include 5,000 acres of longleaf-slash pine, 75,200 acres of loblolly-shortleaf pine, 30,100 acres of oak-pine, 70,200 acres of oak-hickory, and 15,000 acres of oak-gum-cypress *(19)*.

About 175,400 acres in the county is best suited to pines and 20,000 acres is best suited to hardwoods. About 15,000 acres is on bottom land. On about 135,000 acres, the site index is 80 or higher for loblolly pine.

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

This soil survey can be used by woodland managers planning ways to increase the productivity of forest land. Some soils respond better to applications of fertilizer than others, and some are more susceptible to landslides and erosion after roads are built and timber is harvested. Some soils require special reforestation efforts. In the section "Detailed Soil Map Units," the description of each map unit in the survey area suitable for timber includes information about productivity, limitations in harvesting timber, and management concerns in producing timber. The common forest understory plants also are listed. Table 8 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 table lists the *ordination symbol* for each soil. The first part of the ordination symbol, a number, indicates the potential productivity of a soil for the indicator species in cubic meters per hectare. The larger the number, the greater the potential productivity. Potential productivity is based on the site index and the point where mean annual increment is the greatest.

The second part of the ordination symbol, a letter, indicates the major kind of soil limitation affecting use and management. The letter *R* indicates a soil that has a significant limitation because of steepness of slope. The letter *W* indicates a soil in which excessive water, either seasonal or year-round, causes a significant limitation. The letter *C* indicates a soil that has a limitation because of the kind or amount of clay in the upper part of the profile. The letter *S* indicates a dry, sandy soil. The letter *A* indicates a soil having no significant limitations that affect forest use and management. If a soil has more than one limitation, the priority is as follows: R, W, C, and S.

Ratings of the *erosion hazard* indicate the probability that damage may occur if site preparation or harvesting activities 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 harvesting and reforestation activities, and the use of special equipment.

Ratings of *equipment limitation* indicate limits on the use of forest managment equipment, year-round or seasonal, because of such soil characteristics as slope, wetness, stoniness, and 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 is needed. On the steepest slopes, even tracked equipment cannot be operated and more sophisticated systems are needed. The rating is *slight* if equipment use is restricted by wetness for less than 2 months and if special equipment is not needed. The rating is *moderate* if slopes are so steep that wheeled equipment cannot be operated safely across the slope, if wetness restricts equipment use from 2 to 6 months per year, if stoniness restricts the use of ground-based equipment, or if special equipment is needed to prevent or minimize compaction. The rating is *severe* if slopes are so steep that tracked equipment cannot be operated safely across the slope, if wetness restricts equipment for more than 6 months per year, if stoniness restricts the use of ground-based equipment, or if special equipment is needed to prevent or minimize compaction. Ratings of moderate or severe indicate a need to choose the best suited equipment and to carefully plan the timing of harvesting and other management activities.

Ratings of *seedling mortality* refer to the probability of the 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 to a seasonal high water table and the length of the periods when the water table is high, rock fragments in the surface layer, rooting depth, and the aspect of the slope. The mortality rate generally is highest 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 bedding, furrowing, installing a surface drainage system, and 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 is 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 hinders adequate natural or artificial reforestation but does not necessitate intensive site preparation and maintenance. The risk is *moderate* if competition from undesirable plants hinders 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* and a *volume* number. Common trees are listed in the order of their observed general occurrence. Generally, only two or three tree species dominate. The first tree listed for each soil 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.

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 trees attain in a specified number of years. This index applies to fully stocked, even-aged, unmanaged stands. The estimates of the productivity of the soils in this survey are based on published data *(6, 7, 8, 9, 10, 17)*.

The *volume* is the yield likely to be produced by the most important trees, expressed in cubic feet per acre per year calculated at the age of culmination of mean annual increment. Cubic feet per acre can be converted to cubic meters per acre by dividing by 14.3. It can be converted to board feet by multiplying by a factor of about 5. For example, a productivity of 114 means the soil can be expected to produce 570 cubic feet per acre per year at the point where mean annual increment culminates.

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

Recreation

In table 9, 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 sewer lines. 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 uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, 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 a combination of these measures.

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 12 and interpretations for dwellings without basements and for local roads and streets in table 11.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads

Figure 10.—An area of Orangeburg sandy loam, 0 to 2 percent slopes. This soil is well drained and loamy. It is well suited as a site for camp areas and picnic areas.

and intensively used areas, and installing sanitary facilities and utility lines. 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 (fig. 10). The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

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, are not subject to flooding during the period of use, and do not have slopes, stones, or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

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. They have moderate slopes and few or no stones or boulders on the surface.

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. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Robert E. Waters, biologist, Natural Resources Conservation Service, helped prepare this section.

Because of its geographic location, climate, land use patterns, and other characteristics, Henry County supports a variety of game animals, nongame animals, and furbearers. Common game species include bobwhite quail, cottontail rabbit, various species of ducks and geese, gray squirrel, mourning dove, whitetailed deer, and wild turkey. Common nongame species include armadillo, blackbirds, bluebirds, bluejays, cardinals, crows, egrets, herons, meadowlarks, mockingbirds, sparrows, thrushes, vireos, warblers, woodpeckers, and snakes. Common furbearers include beaver, bobcat, coyotes, fox, mink, muskrat, otter, and raccoon.

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. 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 10, 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, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, soybeans, wheat, oats, sorghums, barley, millets, cowpeas, and sunflowers.

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, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are bahiagrass, bermudagrass, johnsongrass, lespedeza, lovegrass, clover, vetches, and alfalfa.

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, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are dewberry, blackberry, crotons, pokeweed, partridge peas, crabgrass, goldenrod, beggarweed, and paspalums.

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, available water capacity, and wetness. Examples of these plants are oak, yellow-poplar, cherry, sweetgum, apple, hawthorn, dogwood, persimmon, sassafras, sumac, holly, hickory, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are autumn-olive, crabapple, dogwood, holly, and pyracantha.

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 baldcypress.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, cattails, 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 depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, beaver ponds, and other 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. Wildlife attracted to these areas include bobwhite quail, mourning dove, 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, warblers, vireos, 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, rails, kingfishers, otter, turtles, muskrat, mink, and beaver.

Aquaculture

H. D. Kelly, biologist, Natural Resources Conservation Service helped prepare this section.

Aquaculture is the controlled production and harvest of animals or plants grown in or on water. In Henry County, sport fish production (bass and bream) is the most common type of aquaculture. The county currently has about 820 acres of bass and bream ponds. Other species of fish are being considered for pond production, and the growth of fish farming should provide an excellent source of additional income for some landowners.

Some of the tables included with this survey can help in evaluating potential pond sites. In table 14, for example, the soil limitations affecting pond reservoir areas and embankments, dikes, and levees are given. Indications of flooding frequency and water table levels are in table 17. These tables and the detailed soil maps can help in evaluating a selected location for its pond-building and water-retaining potential. Once the pond site is selected, however, additional soil borings should be made.

An understanding of soil characteristics is important in determining the potential of a pond site. Clarendon, Conecuh, Dothan, and Meggett soils are generally suited to pond construction.

The construction of buildings and the accessibility of the area are important considerations in evaluating a pond site. Depending upon the size and planned use of the site, road systems must be planned to accommodate harvest trucks. Large trucks are used for commercial operations. Feed trucks or similar equipment also require suitable access to the fish farm. If the farm is planned for fingerling production, a hatchery building will probably be on the site. Other buildings may be needed to store equipment or feed. Table 11 gives soil limitations affecting roads and building sites.

The quality of water in a pond is influenced by the soil. Several variables of water quality affect the production of fish. Total alkalinity, for example, is directly influenced by the soil. Total alkalinity values ranging from 30 to 150 parts per million are preferred. Fish production can be acceptable in ponds that have low alkalinity levels—less than 20 parts per million—provided that the fish are well fed. Other complicating factors, however, affect fish production when alkalinity values are below 20 parts per million. The application of agricultural lime can often prevent production problems associated with low alkalinity values.

The soil in pond basins should be analyzed before the basins are limed and filled with water. The amount of lime needed should be based on the results of the analysis, and the lime should be applied before the ponds are filled with water. Thereafter, annual applications of lime, even in ponds full of water, should range from 20 to 25 percent of the original application to maintain desirable levels of alkalinity. The importance of proper alkalinity levels cannot be overemphasized. Most of the soils that are suitable for pond construction in Henry County require applications of lime.

The source and amounts of water to be used should also be considered when evaluating a site for a pond or fish farm. For example, if runoff water is to be used, the watershed must also be evaluated. Technical assistance in solving site and production problems is available from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the 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. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 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 kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, 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 11 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 bedrock or a very firm, dense layer; 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 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. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. Depth to a high water table, depth to bedrock or to a slowly permeable layer, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 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 the soils. Depth to bedrock or to a slowly permeable layer, depth to a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, 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, depth to bedrock or to a slowly permeable layer, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 12 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.

The table also shows the suitability of the soils for use as daily cover for landfill. 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, depth to bedrock or to a slowly permeable layer, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

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 and gravel 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.

The table 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, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in 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 and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

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 should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a slowly permeable layer, depth to a water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, and soil reaction affect trench 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 sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, 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 or the water table to permit revegetation. The soil material used as the 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 13 gives information about the soils as a source of roadfill, sand, gravel, 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 and gravel. 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 to 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 or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, 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 a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table, 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 or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. 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 gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale, chalk, and siltstone, are not considered to be sand and gravel.

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 rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, 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, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. 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 gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal high 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 nutrients as it decomposes.

Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and for embankments, dikes, and levees. 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, terraces and diversions, 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 or organic matter. A high water table affects the amount of usable material. It also affects trafficability.

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 bedrock, to a slowly permeable layer, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; and susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a slowly permeable layer, large stones, 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, sodium, and 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 construction of a system is affected by large stones and depth to bedrock. The performance of a system is affected by the depth of the root zone and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, 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 20.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, 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 15 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 the heading "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 *(5)* and the system adopted by the American Association of State Highway and Transportation Officials *(4)*.

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 20.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074

millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 16 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 determine the ability of the soil to adsorb cations and to retain moisture. They influence the 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 and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage 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.

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 classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, more 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.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained 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 17 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 infiltration 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 a 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.

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.

The table gives the frequency and duration of flooding and the time of year when flooding is most likely.

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 (the chance of flooding is nearly 0 percent to 5 percent in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year). *Frequent* means that flooding occurs often under normal weather conditions (the chance of flooding is more than a 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes. 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. 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 little or no horizon development.

Also considered is 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 estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in the table 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 the table.

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. 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.

Two numbers in the column showing depth to the water table 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 it is within a depth of 6 feet 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 results in a severe hazard of corrosion. 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.

Physical and Chemical Analyses of Selected Soils

The results of physical analysis of several typical pedons in the survey area are given in table 18 and the results of chemical analysis in table 19. The data are for soils sampled at carefully selected sites. Some of the pedons are typical of the series and are described in the section "Soil Series and Their Morphology." The location of the others is indicated by footnotes in the tables. Soil samples were analyzed by the Agronomy and Soils Mineralogy Laboratory, Auburn University, Auburn, Alabama.

Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an ovendry basis. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods *(15)*.

Sand—(0.05-2.0 mm fraction) weight percentages of material less than 2 mm (3A1).

Silt—(0.002-0.05 mm fraction) pipette extraction, weight percentages of all material less than 2 mm (3A1).

Clay—(fraction less than 0.002 mm) pipette extraction, weight percentages of material less than 2 mm (3A1).

Extractable bases—method of Hajek, Adams, and Cope *(15)*.

Extractable acidity—method of Hajek, Adams, and Cope *(15)*.

Cation-exchange capacity—sum of cations (5A3a).

Base saturation—method of Hajek, Adams, and Cope *(15)*.

Reaction (pH)—1:1 water dilution (8C1a).

Engineering Index Test Data

Table 20 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. Some of the pedons are typical of the series and are described in the section "Soil Series and Their Morphology." The location of the others is indicated by footnotes in the table. The soil samples were tested by the Alabama Highway Department, Bureau of Materials and Testing, Montgomery, Alabama.

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 422 (ASTM), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 4318 (ASTM); Plasticity index—T 90 (AASHTO), D 4318 (ASTM); Moisture density—T 99 (AASHTO), D 698 (ASTM).

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(16)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or on laboratory measurements. Table 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven 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 Hapludults (*Hapl*, meaning minimal horizonation, plus *udults*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic 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 Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, slope, and soil reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is clayey, kaolinitic, thermic Typic Hapludults.

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 of clayey, kaolinitic, thermic Typic Hapludults is the Kolomoki series.

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" *(20)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(16)*. 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 very deep, somewhat poorly drained soils that formed in sandy and loamy sediments. They are on toe slopes and low stream terraces. Slopes range from 0 to 4 percent. The soils of the Albany series are loamy, siliceous, thermic Grossarenic Paleudults.

Albany soils are geographically associated with Goldsboro, Mantachie, and Muckalee soils. The moderately well drained Goldsboro soils are in higher landscape positions. They do not have a thick sandy epipedon. The Mantachie soils and the poorly drained Muckalee soils are on adjacent flood plains. They do not have a thick sandy epipedon, and they are frequently flooded.

Typical pedon of Albany loamy fine sand, 0 to 4 percent slopes, in a wooded area in Abbie Creek Park, about 585 feet south and 335 feet west of the northeast corner of sec. 13, T. 5 N., R. 29 E.

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) loamy fine sand; single grained; loose; many fine and medium roots; moderately acid; abrupt smooth boundary.

E1—6 to 24 inches; brown (10YR 5/3) loamy sand; single grained; loose; few medium roots; moderately acid; clear wavy boundary.

E2—24 to 48 inches; white (10YR 8/2) sand; common medium distinct yellowish brown (10YR 5/6) mottles; single grained; loose; strongly acid; gradual wavy boundary.

BE—48 to 55 inches; light yellowish brown (2.5Y 6/4) sandy loam; common medium distinct yellowish brown (10YR 5/6) and light gray (10YR 6/1) mottles; weak medium subangular blocky structure; very friable; strongly acid; gradual wavy boundary.

Bt—55 to 62 inches; pale brown (10YR 6/3) sandy loam; common weak medium distinct light gray (10YR 6/1) and yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few faint clay films on faces of some peds; strongly acid.

The thickness of the solum is more than 62 inches. Reaction ranges from strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 2 to 8. Most pedons have mottles in shades of yellow, brown, and gray. Mottles that have chroma of 2 or less are within a depth of 30 inches. Texture is loamy sand or sand.

The BE horizon, which is present in most pedons, has hue of 10YR or 2.5Y, value of 4 to 8, and chroma of 4 to 6. It has mottles in shades of yellow, gray, brown, and red. Texture is sandy loam or fine sandy loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 6. It has mottles in shades of gray, yellow, brown, and red. Some pedons do not have a dominant matrix color but are mottled in shades of gray, yellow, brown, and red. Texture is sandy loam or sandy clay loam.

Bigbee Series

The Bigbee series consists of very deep, excessively drained soils that formed in sandy alluvial sediments. They are on the high parts of flood plains. Slopes range from 0 to 2 percent. The soils of the Bigbee series are thermic, coated Typic Quartzipsamments.

Bigbee soils are geographically associated with Mantachie, Muckalee, and Yonges soils. Mantachie, Muckalee, and Yonges soils are in lower landscape positions. The somewhat poorly drained Mantachie and poorly drained Yonges soils are fine-loamy. The poorly drained Muckalee soils are coarse-loamy.

Typical pedon of Bigbee loamy sand, in an area of Bigbee-Muckalee complex, 0 to 2 percent slopes, frequently flooded; 2,170 feet south and 200 feet east of the northwest corner of sec. 10, T. 4 N., R. 28 E.

A—0 to 11 inches; dark brown (10YR 4/3) loamy sand; single grained; loose; many clean sand grains; few fine and medium roots; strongly acid; clear wavy boundary.

C1—11 to 17 inches; yellowish brown (10YR 5/4) loamy sand; single grained; loose; few coarse roots; few clean sand grains; strongly acid; clear wavy boundary.

C2—17 to 65 inches; very pale brown (10YR 7/3) sand; single grained; loose; strongly acid.

Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 or 3.

The upper part of the C horizon has hue of 10YR, value of 4 to 7, and chroma of 4 to 6. Texture is loamy sand or sand.

The lower part of the C horizon has hue of 10YR, value of 6 to 8, and chroma of 1 to 6. Some pedons have mottles in shades of brown and yellow. Texture is sand or fine sand.

Bonifay Series

The Bonifay series consists of very deep, well drained soils that formed in sandy and loamy sediments. They are on broad ridgetops in the uplands. Slopes range from 0 to

5 percent. The soils of the Bonifay series are loamy, siliceous, thermic Grossarenic Plinthic Paleudults.

Bonifay soils are geographically associated with Dothan, Fuquay, and Norfolk soils. Dothan, Fuquay, and Norfolk soils are in landscape positions similar to those of the Bonifay soils but are at slightly higher elevations. Dothan and Norfolk soils do not have a thick sandy epipedon. Fuquay soils have a sandy epipedon ranging from 20 to 40 inches thick.

Typical pedon of Bonifay loamy fine sand, 0 to 5 percent slopes, in a cultivated field, 2,600 feet south and 920 feet west of the northeast corner of sec. 36, T. 7 N., R. 29 E.

Ap—0 to 6 inches; brown (10YR 5/3) loamy fine sand; single grained; loose; few fine roots; few fine and medium ironstone nodules; many clean sand grains; moderately acid; clear wavy boundary.

E1—6 to 41 inches; brownish yellow (10YR 6/6) loamy fine sand; single grained; loose; common clean sand grains; strongly acid; gradual wavy boundary.

E2—41 to 54 inches; yellowish brown (10YR 5/8) loamy fine sand; common medium distinct strong brown (7.5YR 5/8) mottles; single grained; loose; few clean sand grains; strongly acid; gradual wavy boundary.

Btv—54 to 73 inches; light yellowish brown (10YR 6/4) sandy clay loam; common medium prominent yellowish red (5YR 4/8) and few fine faint yellowish brown mottles; weak fine subangular blocky structure; friable; common faint clay films on faces of peds; common clean sand grains; about 20 percent, by volume, nodular plinthite; strongly acid.

The thickness of the solum is 60 inches or more. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where lime has been applied.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 1 to 3.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 4 to 8. Some pedons have mottles in shades of yellow and brown. Most pedons have masses of clean sand grains. Texture is loamy sand or loamy fine sand.

The Btv 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 yellow, red, and brown. The content of nodular plinthite ranges from 5 to 25 percent in the horizon. Texture is sandy loam or sandy clay loam.

Bonneau Series

The Bonneau series consists of very deep, well drained soils that formed in sandy and loamy sediments. They are on stream terraces. Slopes range from 0 to 2 percent. The soils of the Bonneau series are loamy, siliceous, thermic Arenic Paleudults.

Bonneau soils are geographically associated with Kolomoki, Meggett, and Riverview soils. Kolomoki, Meggett, and Riverview soils are in lower landscape positions that are subject to flooding. Kolomoki and Meggett soils have a clayey argillic horizon and do not have a thick sandy epipedon. Riverview soils do not have a thick sandy epipedon.

Typical pedon of Bonneau loamy fine sand, 0 to 2 percent slopes, in a cultivated field, 170 feet south and 2,640 feet east of the northwest corner of sec. 6, T. 6 N., R. 30 E.

Ap—0 to 10 inches; brown (10YR 4/3) loamy fine sand; weak fine granular structure; loose; few fine roots; moderately acid; abrupt smooth boundary.

E—10 to 23 inches; very pale brown (10YR 7/4) loamy fine sand; few medium faint brownish yellow (10YR 6/6) mottles; single grained; loose; moderately acid; abrupt smooth boundary.

Bt1—23 to 35 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—35 to 54 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium distinct light gray (10YR 7/2) and common medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt3—54 to 68 inches; brownish yellow (10YR 6/8) sandy clay loam; common medium distinct light gray (10YR 7/2) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid.

The thickness of the solum is more than 60 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where lime has been applied.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 4 to 6. Texture is loamy fine sand or loamy sand.

The upper part of the Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 6 to 8. Most pedons have mottles in shades of red, yellow, brown, and gray. Texture is sandy loam or sandy clay loam.

The lower part of the Bt horizon has colors similar to those of the upper part. Texture is sandy clay loam or sandy clay.

Clarendon Series

The Clarendon series consists of very deep, moderately well drained soils that formed in loamy sediments. They are on concave slopes on broad ridgetops in the uplands. Slopes range from 0 to 2 percent. The soils of the Clarendon series are fine-loamy, siliceous, thermic Plinthaquic Paleudults.

Clarendon soils are geographically associated with Dothan and Paxville soils. The well drained Dothan soils are at slightly higher elevations. They do not have low-chroma mottles in the upper part of the argillic horizon. The very poorly drained Paxville soils are in depressions. They have an umbric epipedon.

Typical pedon of Clarendon sandy loam, 0 to 2 percent slopes, in a cultivated area, 1,310 feet north and 585 feet west of the southeast corner of sec. 4, T. 4 N., R. 29 E.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine and medium roots; moderately acid; abrupt smooth boundary.

Bt1—10 to 17 inches; yellowish brown (10YR 5/8) sandy clay loam; few fine distinct dark grayish brown (10YR 4/3) mottles; weak medium subangular blocky structure; friable; many fine roots; few faint clay films on faces of peds; moderately acid; clear wavy boundary.

Bt2—17 to 26 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium distinct light yellowish brown (2.5Y 6/4) and light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Btv1—26 to 37 inches; brownish yellow (10YR 6/6) sandy clay loam; many medium distinct light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) mottles and few fine prominent yellowish red (5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine black concretions of manganese oxide; about 10 percent nodular plinthite; strongly acid; gradual wavy boundary.

Btv2—37 to 62 inches; mottled light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) sandy clay loam; few fine prominent yellowish red (5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine black concretions of manganese oxide; about 15 percent nodular plinthite; strongly acid.

The thickness of the solum is more than 60 inches. Reaction is strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2.

The Bt horizon has hue of 10YR, value of 5 or 6, and chroma of 6 to 8. Most pedons have mottles in shades of yellow, brown, and gray. Texture is sandy loam or sandy clay loam.

The upper part of the Btv horizon has hue of 10YR, value of 5 or 6, and chroma of 4 to 6 or has no dominant matrix color and is mottled in shades of yellow, brown, gray, and red. The lower part of the Btv horizon has no dominant matrix color but is mottled in shades of gray, yellow, brown, and red. Texture is sandy clay loam or sandy loam.

Conecuh Series

The Conecuh series consists of very deep, moderately well drained soils that formed in clayey sediments. They are on ridgetops and side slopes in the uplands. Slopes range from 2 to 35 percent. The soils of the Conecuh series are clayey, montmorillonitic, thermic Aquic Hapludults.

Conecuh soils are geographically associated with Lucy and Nankin soils. Lucy and Nankin soils are in slightly higher landscape positions. Lucy soils have a sandy epipedon ranging from 20 to 40 inches thick. Nankin soils have kaolinitic mineralogy.

Typical pedon of Conecuh sandy clay loam, 2 to 5 percent slopes, eroded, in a wooded area, 670 feet north and 1,170 feet east of the southwest corner of sec. 7, T. 7 N., R. 28 E.

Ap—0 to 4 inches; reddish brown (5YR 4/4) and dark brown (7.5YR 4/4) sandy clay loam; weak medium subangular blocky structure; friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

Bt1—4 to 8 inches; red (2.5YR 4/6) clay; common medium prominent light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; few fine and medium roots; few faint clay films on faces of peds; strongly acid; abrupt smooth boundary.

Bt2—8 to 21 inches; red (10R 4/6) clay; few medium distinct gray (10YR 6/1) mottles; strong fine angular blocky structure; firm; few medium roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt3—21 to 34 inches; red (2.5YR 4/6) clay; many medium prominent gray (10YR 6/2) mottles; strong fine angular blocky structure; firm; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

BC—34 to 54 inches; light brownish gray (10YR 6/2) clay; common medium prominent red (2.5YR 4/6) mottles; thick platy structure parting to strong fine subangular blocky; firm; very strongly acid; gradual wavy boundary.

C—54 to 72 inches; light gray (10YR 7/2) clayey shale; weak medium platy structure; firm; few thin strata of red (5YR 4/6) sandy clay loam; very strongly acid.

The thickness of the solum ranges from 40 to 55 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 2 or 4. Texture is sandy clay loam or loamy sand.

The upper part of the Bt horizon has hue of 10R to 5YR, value of 4 or 5, and chroma of 6 or 8. It has mottles in shades of gray and brown. Texture is clay or clay loam.

The lower part of the Bt horizon has hue of 2.5YR to 5YR, value of 4 or 5, and chroma of 6 to 8. It has mottles in shades of yellow, gray, and brown. Texture is clay or silty clay.

The BC or CB horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 1 or 2. It has mottles in shades of red, brown, and yellow. Texture is clay, silty clay, or clay loam.

The C horizon has colors similar to those of the BC or CB horizon. Texture is clay or clayey shale. Some pedons have strata of material that ranges in texture from sandy loam to clay. The horizon is massive or has platy structure.

Dothan Series

The Dothan series consists of very deep, well drained soils that formed in loamy sediments. They are on broad ridgetops in the uplands. Slopes range from 0 to 5 percent. The soils of the Dothan series are fine-loamy, siliceous, thermic Plinthic Kandiudults.

Dothan soils are geographically associated with Bonifay, Clarendon, Fuquay, Orangeburg, and Tumbleton soils. Bonifay soils are in lower landscape positions. They have a sandy epipedon more than 40 inches thick. Clarendon soils are on slightly lower, more concave slopes. They have low-chroma mottles in the upper part of the argillic horizon. Fuquay and Orangeburg soils are in landscape positions similar to those of the Dothan soils. Fuquay soils have a sandy epipedon ranging from 20 to 40 inches thick. Orangeburg soils have a red or yellowish red subsoil, and they have less than 5 percent plinthite within a depth of 60 inches. Tumbleton soils are in lower landscape positions. They have a clayey subsoil.

Typical pedon of Dothan fine sandy loam, 2 to 5 percent slopes, in a cultivated area, 1,320 feet south and 670 feet west of the northeast corner of sec. 2, T. 4 N., R. 27 E.

Ap—0 to 9 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; common ironstone nodules; moderately acid; clear wavy boundary.

Bt1—9 to 16 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; moderately acid; clear wavy boundary.

Bt2—16 to 32 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium distinct yellowish red (5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; about 3 percent nodular plinthite; strongly acid; gradual wavy boundary.

Btv1—32 to 52 inches; mottled yellowish brown (10YR 5/6), light yellowish brown (10YR 6/4), and yellowish red (5YR 4/8) clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few ironstone nodules; about 10 percent nodular plinthite; strongly acid; clear wavy boundary.

Btv2—52 to 80 inches; mottled light yellowish brown (10YR 6/4), yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), and yellowish red (5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 2 percent quartz gravel; about 20 percent nodular plinthite; very strongly acid.

The thickness of the solum ranges from 60 to 80 inches or more. Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has few to common ironstone nodules.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 to 8. Some pedons have mottles in shades of red and brown in the lower part. Texture is sandy loam or sandy clay loam.

The Btv horizon has hue of 10YR, value of 5 or 6, chroma of 4 to 8, and mottles in shades of brown, red, and gray; or it has no dominant matrix color and is mottled in shades of yellow, brown, red, and gray. Texture is sandy clay loam or clay loam. The content of nodular plinthite ranges from 10 to 35 percent by volume.

Faceville Series

The Faceville series consists of very deep, well drained soils that formed in clayey sediments. They are on ridgetops and side slopes in the uplands. Slopes range from 2 to 12 percent. The soils of the Faceville series are clayey, kaolinitic, thermic Typic Kandiudults.

Faceville soils are geographically associated with Lucy, Nankin, Orangeburg, and Troup soils. Lucy soils are in slightly higher landscape positions. They have a sandy epipedon ranging from 20 to 40 inches thick. Nankin soils are in landscape positions similar to those of the Faceville soils. They have a solum that is less than 60 inches thick. Orangeburg soils are in higher landscape positions. They are fine-loamy. Troup soils are in higher landscape positions, and they have a sandy epipedon more than 40 inches thick.

Typical pedon of Faceville sandy loam, 2 to 5 percent slopes, eroded, in a cultivated field, 20 feet south and 1,660 feet west of the northeast corner of sec. 36, T. 8 N., R. 27 E.

Ap—0 to 4 inches; reddish brown (5YR 4/3) sandy loam; weak fine granular structure; friable; few fine and medium ironstone nodules; few fine roots; strongly acid; clear wavy boundary.

Bt1—4 to 9 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—9 to 26 inches; red (10R 4/6) sandy clay; moderate medium subangular blocky structure; firm; few fine and medium ironstone nodules; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—26 to 65 inches; dark red (2.5YR 3/6) clay; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; very strongly acid.

The thickness of the solum is more than 65 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The Ap horizon has hue of 5YR, value of 4 or 5, and chroma of 4 to 6. Texture is sandy loam or sandy clay loam.

The upper part of the Bt horizon has hue of 10R to 5YR, value of 4 or 5, and chroma of 6 to 8. Texture is clay, sandy clay, sandy clay loam, or clay loam.

The lower part of the Bt horizon has hue of 10R to 5YR, value of 3 to 5, and chroma of 6 to 8. The layers that have value of 3 are below a depth of 20 inches. Some pedons have mottles in shades of brown, yellow, and red. Texture is clay, sandy clay, or clay loam.

Fuquay Series

The Fuquay series consists of very deep, well drained soils that formed in sandy and loamy sediments. They are on narrow to broad ridgetops and on side slopes. Slopes range from 0 to 10 percent. The soils of the Fuquay series are loamy, siliceous, thermic Arenic Plinthic Kandiudults.

Fuquay soils are geographically associated with Bonifay, Dothan, Norfolk, and Tumbleton soils. Bonifay soils are in landscape positions similar to those of the Fuquay soils. They have a sandy epipedon more than 40 inches thick. Dothan and Norfolk soils are at slightly higher elevations, and they do not have a thick sandy epipedon. Tumbleton soils are on narrow ridges at slightly higher elevations or on side slopes. They have a clayey argillic horizon.

Typical pedon of Fuquay loamy sand, 0 to 5 percent slopes, in a cultivated area, 585 feet south and 1,000 feet west of the northeast corner of sec. 26, T. 5 N., R. 29 E.

Ap—0 to 8 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; few fine roots; slightly acid; abrupt smooth boundary.

E—8 to 32 inches; brownish yellow (10YR 6/6) loamy sand; single grained; loose; few streaks of clean sand grains; moderately acid; clear wavy boundary.

Bt—32 to 41 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv1—41 to 47 inches; brownish yellow (10YR 6/6) sandy clay loam; common fine distinct pale brown (10YR 6/3) and yellowish red (5YR 4/6) mottles; weak medium subangular blocky structure; firm; few faint clay films on faces of peds; about 15 percent nodular plinthite; strongly acid; gradual smooth boundary.

Btv2—47 to 65 inches; mottled pale brown (10YR 6/3), brownish yellow (10YR 6/6), and yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 20 percent nodular plinthite; strongly acid.

The thickness of the solum is more than 65 inches. Reaction ranges from strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3.

The E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. Most pedons have streaks of clean sand. Some pedons have up to 5 percent, by volume, ironstone nodules. Texture is loamy fine sand or loamy sand.

The Bt horizon has hue of 10YR, value of 4 to 6, and chroma of 4 to 8. Some pedons have streaks of clean sand. Texture is sandy loam or sandy clay loam.

The Btv horizon has hue of 10YR, value of 5 or 6, chroma of 6 to 8, and mottles in shades of red, gray, and yellow; or it has no dominant matrix color and is mottled in shades of yellow, red, gray, and brown. Texture is sandy clay loam or clay loam. The content of nodular plinthite is 5 to 20 percent, by volume.

Goldsboro Series

The Goldsboro series consists of very deep, moderately well drained soils that formed in loamy sediments. They are on broad terraces. Slopes range from 0 to 2 percent. The soils of the Goldsboro series are fine-loamy, siliceous, thermic Aquic Paleudults.

Goldsboro soils are geographically associated with Albany and Norfolk soils. Albany soils are in slightly lower landscape positions. They have a sandy epipedon more than 40 inches thick. Norfolk soils are in slightly higher positions. They do not have low-chroma mottles in the upper part of the argillic horizon.

Typical pedon of Goldsboro loamy sand, 0 to 2 percent slopes, in a pine plantation, 335 feet north and 1,500 feet east of the southwest corner of sec. 32, T. 8 N., R. 27 E.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

BE—8 to 19 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; very friable; few fine streaks of clean sand grains; few medium roots; strongly acid; clear wavy boundary.

Bt1—19 to 28 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few medium roots; few faint clay films on faces of peds; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

Bt2—28 to 36 inches; brownish yellow (10YR 6/8) sandy clay loam; few fine distinct gray (10YR 6/1) and pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable; few medium roots; few faint clay films on faces of most peds; very strongly acid; clear wavy boundary.

Bt3—36 to 65 inches; brownish yellow (10YR 6/8) sandy clay loam; few fine distinct gray (10YR 6/1) and yellowish red (5YR 4/8) mottles; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; sand grains coated and bridged with clay; very strongly acid.

The thickness of the solum is more than 60 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 3 to 6, and chroma of 1 or 2.

The BE horizon, which is present in most pedons, has hue of 10YR, value of 5 or 6, and chroma of 3 to 6.

The Bt horizon has hue of 7.5YR to 10YR, value of 5 or 6, and chroma of 6 to 8. It has mottles in shades of gray, brown, and red. Texture is sandy loam or sandy clay loam. Some pedons have texture of clay loam in the lower part of the Bt horizon.

Greenville Series

The Greenville series consists of very deep, well drained soils that formed in clayey sediments. They are on broad ridgetops in the uplands. Slopes range from 0 to 5 percent. The soils of the Greenville series are clayey, kaolinitic, thermic Rhodic Kandiudults.

Greenville soils are geographically associated with Orangeburg, Red Bay, and Troup soils. Orangeburg and Red Bay soils are in slightly higher landscape positions. They are fine-loamy. Troup soils are generally in lower landscape positions. They have a sandy epipedon more than 40 inches thick.

Typical pedon of Greenville fine sandy loam, 2 to 5 percent slopes, in a cultivated area, 1,335 feet north and 2,600 feet west of the southeast corner of sec. 4, T. 4 N., R. 29 E.

Ap—0 to 5 inches; dark reddish brown (5YR 3/4) fine sandy loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—5 to 21 inches; dark red (2.5YR 3/6) sandy clay; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; moderately acid; gradual wavy boundary.

Bt2—21 to 72 inches; dark red (10R 3/6) sandy clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; strongly acid.

The thickness of the solum is more than 60 inches. Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The Ap horizon has hue of 2.5YR or 5YR, value of 3, and chroma of 3 or 4. The content of ironstone nodules ranges from 0 to 10 percent.

The BA horizon, if it occurs, has hue of 10R or 2.5YR, value of 2 or 3, and chroma of 4 to 6. Texture is sandy loam or sandy clay loam.

The Bt horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6. Some pedons have mottles in shades of brown in the lower part. Texture is sandy clay or clay.

Kolomoki Series

The Kolomoki series consists of very deep, well drained soils that formed in clayey and loamy sediments. They are on stream terraces. Slopes range from 0 to 3 percent. The soils of the Kolomoki series are clayey, kaolinitic, thermic Typic Hapludults.

Kolomoki soils are geographically associated with Bonneau, Meggett, and Riverview soils. Bonneau soils are in slightly higher landscape positions. They have a sandy epipedon ranging from 20 to 40 inches thick. The poorly drained Meggett soils are in depressions and drainageways. Riverview soils are on the high parts of natural levees. They are fine-loamy.

Typical pedon of Kolomoki fine sandy loam, 0 to 3 percent slopes, rarely flooded, in a cultivated area, 1,670 feet north and 2,000 feet east of the southwest corner of sec. 29, T. 7 N., R. 30 E.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; moderately acid; abrupt smooth boundary.

BA—10 to 13 inches; yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; common medium roots; moderately acid; clear wavy boundary.

Bt1—13 to 35 inches; red (2.5YR 4/6) clay; strong medium subangular blocky structure; firm; few medium roots; few faint clay films on faces of peds; common fine flakes of mica; strongly acid; clear wavy boundary.

Bt2—35 to 48 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine flakes of mica; strongly acid; gradual wavy boundary.

C—48 to 64 inches; yellowish red (5YR 5/8) sandy loam; massive; very friable; strongly acid.

The thickness of the solum is 30 to 55 inches. Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The BA horizon, which is present in most pedons, has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. Texture is sandy loam or sandy clay loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. Texture is sandy clay, clay, sandy clay loam, or clay loam.

The C horizon has hue of 5YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8. Texture is loamy sand, sandy loam, or sandy clay loam.

Lucy Series

The Lucy series consists of very deep, well drained soils that formed in sandy and loamy sediments. They are on ridgetops and side slopes in the uplands. Slopes range from 0 to 35 percent. The soils of the Lucy series are loamy, siliceous, thermic Arenic Kandiudults.

Lucy soils are geographically associated with Conecuh, Faceville, Nankin, and Troup soils. Conecuh, Faceville, and Nankin soils are in lower landscape positions. They have a clayey argillic horizon. Troup soils are in landscape positions similar to those of the Lucy soils. They have a sandy epipedon more than 40 inches thick.

Typical pedon of Lucy loamy sand, 0 to 5 percent slopes, in a cultivated area, 2,000 feet north and 750 feet west of the southeast corner of sec. 12, T. 5 N., R. 27 E.

Ap—0 to 12 inches; dark brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; few fine roots; slightly acid; abrupt smooth boundary.

E—12 to 25 inches; strong brown (7.5YR 5/6) loamy sand; single grained; loose; few streaks of clean sand grains; strongly acid; clear wavy boundary.

Bt1—25 to 35 inches; yellowish red (5YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

Bt2—35 to 50 inches; red (2.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—50 to 65 inches; red (2.5YR 4/6) clay loam; weak coarse subangular blocky structure; friable; common faint clay films on faces of peds; strongly acid.

The thickness of the solum is more than 60 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The Ap or A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 or 3. Texture is loamy sand or loamy fine sand.

The E horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 6 to 8. Texture is loamy fine sand or loamy sand.

The BE horizon, if it occurs, has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 6 to 8.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. Some pedons have mottles in shades of yellow and brown in the lower part of the horizon. Texture is sandy loam, sandy clay loam, or clay loam.

Mantachie Series

The Mantachie series consists of very deep, somewhat poorly drained soils that formed in loamy alluvium. They are on flood plains. Slopes range from 0 to 2 percent. The soils of the Mantachie series are fine-loamy, siliceous, thermic Aeric Fluvaquents.

Mantachie soils are geographically associated with Albany, Bigbee, Muckalee, and Yonges soils. Albany soils are on adjacent low terraces. They have a thick sandy epipedon. Bigbee soils are in slightly higher landscape positions. They are sandy throughout. The poorly drained Muckalee and Yonges soils are at slightly lower elevations.

Typical pedon of Mantachie loam, 0 to 2 percent slopes, frequently flooded, 1,840 feet south and 2,000 feet east of the northwest corner of sec. 2, T. 7 N., R. 28 E.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; clear wavy boundary.

A2—3 to 8 inches; dark yellowish brown (10YR 4/4) loam; few fine faint grayish brown mottles; weak fine granular structure; friable; many fine roots; strongly acid; clear wavy boundary.

Bw—8 to 12 inches; yellowish brown (10YR 5/4) sandy clay loam; common medium distinct light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; strongly acid; clear wavy boundary.

Bg1—12 to 21 inches; light gray (10YR 7/2) sandy clay loam; common medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; very strongly acid; gradual wavy boundary.

Bg2—21 to 38 inches; light gray (10YR 7/1) sandy clay loam; common medium prominent strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Bg3—38 to 64 inches; light gray (10YR 7/1) sandy clay loam; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) mottles; weak medium subangular blocky structure; friable; very strongly acid.

The thickness of the solum ranges from 40 to 65 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4.

The Bw horizon has hue of 10YR, value of 4 or 5, chroma of 2 to 6, and few to many mottles in shades of gray, yellow, and brown; or it has no dominant matrix color and is mottled in shades of gray, yellow, red, and brown. Texture is loam or sandy clay loam.

The Bg horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2. It has few to many mottles in shades of brown, yellow, and red. Texture is sandy clay loam, loam, or clay loam.

Meggett Series

The Meggett series consists of very deep, poorly drained soils that formed in clayey sediments. They are in depressions on flood plains along large streams. Slopes range from 0 to 2 percent. The soils of the Meggett series are fine, mixed, thermic Typic Albaqualfs.

Meggett soils are geographically associated with Bonneau, Kolomoki, Riverview, and Paxville soils. The well drained Bonneau soils are in higher landscape positions. They have a sandy epipedon ranging from 20 to 40 inches thick. The well drained Kolomoki and Riverview soils are in higher landscape positions. They do not have low-chroma colors in the upper part of the subsoil. Paxville soils are in depressions at higher elevations. They are fine-loamy.

Typical pedon of Meggett loam, 0 to 2 percent slopes, frequently flooded, in a pasture, 1,700 feet south and 1,330 feet west of the northeast corner of sec. 31, T. 7 N., R. 20 E.

Ap—0 to 6 inches; dark gray (10YR 4/1) loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

E—6 to 13 inches; gray (10YR 6/1) loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; moderately acid; abrupt wavy boundary.

Btg1—13 to 23 inches; gray (10YR 6/1) clay loam; many medium distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few medium roots; common faint clay films on faces of peds; slightly acid; clear wavy boundary.

Btg2—23 to 35 inches; gray (10YR 6/1) clay; many medium prominent strong brown (7.5YR 5/8) mottles; strong medium subangular blocky structure; very firm; common faint clay films on faces of peds; slightly acid; clear wavy boundary.

Btg3—35 to 48 inches; gray (10YR 6/1) clay; many medium prominent strong brown (7.5YR 5/8) and yellow (10YR 7/6) mottles; strong medium subangular blocky structure; very firm; common faint clay films on faces of peds; neutral; gradual wavy boundary.

BCg—48 to 63 inches; gray (10YR 6/1) clay loam; many medium prominent strong brown (7.5YR 5/8) and yellow (10YR 7/6) mottles; weak coarse subangular blocky structure; firm; few faint clay films on faces of peds; neutral.

The thickness of the solum ranges from 50 to 70 inches or more.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. Reaction ranges from strongly acid to slightly acid.

The E horizon, which is present in most pedons, has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. It has mottles in shades of yellow and brown. Reaction ranges from strongly acid to slightly acid. Texture is loam, fine sandy loam, or sandy loam.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It has common or many mottles in shades of yellow and brown. Reaction ranges from strongly acid to moderately alkaline. Texture is clay, sandy clay, or clay loam.

The BCg horizon, which is present in most pedons, has hue of 10Y or 2.5Y, value of 6 or 7, and chroma of 1 or 2. It has common or many mottles in shades of yellow and brown. Reaction ranges from slightly acid to moderately alkaline. Texture is sandy clay loam, clay loam, or sandy clay.

Muckalee Series

The Muckalee series consists of very deep, poorly drained soils that formed in loamy and sandy alluvium. They are on flood plains along small streams. Slopes are 0 to 1 percent. The soils of the Muckalee series are coarse-loamy, siliceous, nonacid, thermic Typic Fluvaquents.

Muckalee soils are geographically associated with Bigbee, Mantachie, and Yonges soils. Bigbee soils are in higher landscape positions. They are sandy throughout. Mantachie and Yonges soils are in slightly higher landscape positions. They are fine-loamy.

Typical pedon of Muckalee sandy loam, 0 to 1 percent slopes, frequently flooded, in a wooded area, 585 feet south and 2,600 feet west of the northeast corner of sec. 19, T. 6 N., R. 29 E.

A—0 to 6 inches; grayish brown (10YR 5/2) sandy loam; common fine faint dark yellowish brown (10YR 4/4) mottles; weak fine granular structure; very friable; few fine and medium roots; moderately acid; clear wavy boundary.

Cg1—6 to 31 inches; grayish brown (2.5Y 5/2) loamy sand; common fine distinct yellowish brown (10YR 5/6) mottles; single grained; loose; few fine roots; few thin strata of gray (10YR 5/1) sandy clay loam; moderately acid; clear wavy boundary.

Cg2—31 to 40 inches; dark grayish brown (10YR 4/2) sandy loam; common medium distinct yellowish brown (10YR 5/6) and gray (10YR 6/1) mottles; massive; friable; moderately acid; clear wavy boundary.

Cg3—40 to 72 inches; dark gray (10YR 4/1) loamy sand; many medium distinct gray (10YR 6/1) and few medium distinct light yellowish brown (10YR 6/4) mottles; massive; friable; moderately acid.

Reaction ranges from strongly acid to moderately acid in the surface layer and from moderately acid to moderately alkaline in the C horizon.

The A horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2.

The Cg horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2. It has few to many mottles in shades of gray, brown, and yellow. Texture is loamy sand or sandy loam. Most pedons have thin strata of finer textured material.

Nankin Series

The Nankin series consists of very deep, well drained soils that formed in clayey sediments. They are on side slopes and narrow ridges in the uplands. Slopes range from 2 to 60 percent. The soils of the Nankin series are clayey, kaolinitic, thermic Typic Kanhapludults.

Nankin soils are geographically associated with Conecuh, Faceville, Lucy, and Troup soils. Conecuh soils are in lower landscape positions. They have montmorillonitic mineralogy. Faceville soils are in slightly higher landscape positions. They have a solum that is more than 60 inches thick. Lucy and Troup soils are in landscape positions similar to those of the Nankin soils. They have a thick sandy epipedon.

Typical pedon of Nankin loamy sand, in an area of Lucy-Nankin complex, 12 to 35 percent slopes, in a pine plantation; 160 feet north and 2,670 feet west of the southeast corner of sec. 8, T. 8 N., R. 29 N.

Ap—0 to 9 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine and medium roots; about 5 percent ironstone channers; strongly acid; clear wavy boundary.

Bt1—9 to 17 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; common faint clay films on faces of peds; few fine flakes of mica; strongly acid; clear wavy boundary.

Bt2—17 to 32 inches; yellowish red (5YR 4/8) clay; few fine distinct brownish yellow (10YR 6/6) mottles; strong medium subangular blocky structure; firm; common faint clay films on faces of peds; common fine flakes of mica; very strongly acid; gradual wavy boundary.

Bt3—32 to 54 inches; yellowish red (5YR 4/8) clay; common fine distinct light gray (10YR 7/2) and brownish yellow (10YR 6/6) mottles; strong medium subangular blocky structure; firm; few faint clay films on vertical faces of peds; common fine flakes of mica; very strongly acid; clear wavy boundary.

C—54 to 65 inches; yellowish red (5YR 4/8) sandy loam; massive; firm; common thin strata of sandy clay loam; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 40 to 60 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon commonly has hue of 10YR, value of 4 or 5, and chroma of 3 to 5. Some pedons in eroded areas have hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 6. Texture is loamy sand or sandy clay loam.

The E horizon, if it occurs, has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Texture is loamy sand or sandy loam.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8. Texture is clay loam, clay, or sandy clay. Some pedons have a thin sandy clay loam layer in the upper part.

The BC horizon, if it occurs, has hue of 2.5YR to 7.5YR, value of 4 or 5, chroma of 6 to 8, and common or many mottles in shades of gray, red, yellow, and brown; or it has no dominant matrix color and is mottled in shades of these colors. Texture is sandy clay loam or sandy loam with strata of loamy sand, sandy loam, or sandy clay loam.

The C horizon has hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 1 to 8. It has mottles in shades of gray, red, brown, and yellow. Texture is sandy loam or sandy clay loam with strata of loamy sand, sandy loam, or sandy clay loam.

Norfolk Series

The Norfolk series consists of very deep, well drained soils that formed in loamy sediments. They are on broad ridgetops in the uplands. Slopes range from 0 to 5 percent. The soils of the Norfolk series are fine-loamy, siliceous, thermic Typic Kandiudults.

Norfolk soils are geographically associated with Bonifay, Fuquay, and Goldsboro soils. Bonifay and Fuquay soils are in higher landscape positions. They have a thick sandy epipedon. Goldsboro soils are in lower landscape positions. They have low-chroma mottles in the upper part of the argillic horizon.

Typical pedon of Norfolk loamy sand, 0 to 2 percent slopes, in a cultivated area, 2,000 feet north and 1,835 feet east of the southwest corner of sec. 34, T. 5 N., R. 29 E.

Ap—0 to 10 inches; dark brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; few fine roots; moderately acid; clear wavy boundary.

BE—10 to 20 inches; yellowish brown (10YR 5/4) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.

Bt1—20 to 35 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt2—35 to 48 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—48 to 62 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct yellowish red (5YR 5/6) mottles; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid.

The thickness of the solum is more than 60 inches. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed. Some pedons have up to 5 percent, by volume, ironstone nodules.

The A or Ap has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The E horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 4 to 6. Texture is loamy sand or loamy fine sand.

The BE horizon, which is present in most pedons, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6. Texture is sandy loam or fine sandy loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. Some pedons have few to common mottles in shades of brown, red, and yellow in the lower part of the horizon. Other pedons have mottles with chroma of 2 or less below a depth of 48 inches. Texture is sandy clay loam, sandy loam, or clay loam.

Orangeburg Series

The Orangeburg series consists of very deep, well drained soils that formed in loamy sediments. They are on narrow to broad ridgetops and on side slopes in the uplands. Slopes range from 0 to 8 percent. The soils of the Orangeburg series are fine-loamy, siliceous, thermic Typic Kandiudults.

Orangeburg soils are geographically associated with Dothan, Faceville, Greenville, and Lucy soils. Dothan soils are in landscape positions similar to those of the Orangeburg soils. They have a yellowish brown subsoil and are plinthic. Faceville and Greenville soils are in slightly lower landscape positions. They have a clayey argillic horizon. Lucy soils are in slightly higher landscape positions. They have a thick sandy epipedon.

Typical pedon of Orangeburg sandy loam, 2 to 5 percent slopes, in a cultivated area, 2,000 feet north and 1,170 feet east of the southwest corner of sec. 11, T. 4 N., R. 26 E.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine granular structure; very friable; few fine roots; slightly acid; abrupt smooth boundary.

Bt1—10 to 20 inches; yellowish red (5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

Bt2—20 to 60 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of some peds; sand grains coated and bridged with clay; strongly acid.

The thickness of the solum is 60 inches or more. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 3 or 4.

The E horizon, if it occurs, has hue of 10YR, value of 5 or 6, and chroma of 3 to 6. Texture is sandy loam or fine sandy loam.

The BA or BE horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 4 to 8. Texture is sandy loam or fine sandy loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. Some pedons have mottles in shades of yellow and brown in the lower part of the horizon. Texture is sandy loam or sandy clay loam.

Paxville Series

The Paxville series consists of very deep, very poorly drained soils that formed in loamy sediments. They are in depressions on broad ridgetops. Slopes range from 0 to 2 percent. The soils of the Paxville series are fine-loamy, siliceous, thermic Typic Umbraquults.

Paxville soils are geographically associated with Clarendon and Dothan soils. The moderately well drained Clarendon and well drained Dothan soils are in slightly higher, more convex landscape positions. They do not have gray colors in the upper part of the argillic horizon.

Typical pedon of Paxville loam, 0 to 2 percent slopes, in a pasture, 50 feet south and 1,000 feet west of the northeast corner of sec. 2, T. 5 N., R. 28 E.

Ap—0 to 10 inches; very dark brown (10YR 2/2) loam; weak medium granular structure; very friable; many fine and medium roots; moderately acid; clear wavy boundary.

AB—10 to 18 inches; dark grayish brown (10YR 4/2) sandy loam; weak medium granular structure; friable; few medium roots; moderately acid; clear wavy boundary.

Btg1—18 to 36 inches; gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btg2—36 to 45 inches; grayish brown (10YR 5/2) sandy clay loam; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btg3—45 to 56 inches; grayish brown (10YR 5/2) sandy clay loam; few fine distinct yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; strongly acid; abrupt smooth boundary.

Cg—56 to 65 inches; light gray (10YR 6/1) loamy sand; massive; friable; very strongly acid.

The thickness of the solum ranges from 40 to 60 inches or more. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The AB horizon, which is present in most pedons, has hue of 10YR, value of 3 to 6, and chroma of 1 or 2. Texture is 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 yellow, red, and brown. Texture is sandy clay loam or loam.

The Cg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. Some pedons have mottles in shades of yellow, red, and brown. Texture is sand or loamy sand. Some pedons have strata of clayey material.

Red Bay Series

The Red Bay series consists of very deep, well drained soils that formed in loamy sediments. They are on broad ridgetops in the uplands. Slopes range from 0 to 5 percent. The soils of the Red Bay series are fine-loamy, siliceous, thermic Rhodic Kandiudults.

Red Bay soils are geographically associated with Greenville, Nankin, and Orangeburg soils. Greenville soils are in slightly lower landscape positions. They have a clayey argillic horizon. Nankin soils are in lower landscape positions. They have a clayey argillic horizon. Orangeburg soils are in slightly higher landscape positions. They do not have dark red colors throughout the argillic horizon.

Typical pedon of Red Bay fine sandy loam, 0 to 2 percent slopes, in a cultivated field, 500 feet north and 1,500 feet east of the southwest corner of sec. 24, T. 5 N., R. 27 E.

Ap—0 to 7 inches; reddish brown (5YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; moderately acid; clear wavy boundary.

BE—7 to 13 inches; dark reddish brown (5YR 3/4) sandy loam; weak fine subangular blocky structure; very friable; few fine roots; strongly acid; gradual wavy boundary.

Bt1—13 to 45 inches; dark reddish brown (2.5YR 3/4) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt2—45 to 65 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid.

The thickness of the solum is more than 60 inches. Reaction is strongly acid or moderately acid in the upper part of the solum, except in areas where the surface layer has been limed. It is very strongly acid or strongly acid in the lower part of the solum.

The Ap horizon has hue of 5YR, value of 3 or 4, and chroma of 3 or 4.

The BA or BE horizon, which is present in most pedons, has hue of 10R to 5YR, value of 3 or 4, and chroma of 4 or 5. Texture is sandy loam or sandy clay loam.

The Bt horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6. Texture is sandy loam or sandy clay loam.

Riverview Series

The Riverview series consists of very deep, well drained soils that formed in loamy alluvium. They are on the higher parts of flood plains along large streams. Slopes range from 0 to 5 percent. The soils of the Riverview series are fine-loamy, mixed, thermic Fluventic Dystrochrepts.

Riverview soils are geographically associated with Bonneau, Kolomoki, and Meggett soils. Bonneau and Kolomoki soils are on adjacent stream terraces. Bonneau soils have a thick sandy epipedon. Kolomoki soils have a clayey argillic horizon. The poorly drained Meggett soils are in depressions. They have a gray, clayey argillic horizon.

Typical pedon of Riverview fine sandy loam, 0 to 5 percent slopes, occasionally flooded, in a pasture, 1,500 feet south and 100 feet east of the northwest corner of sec. 5, T. 7 N., R. 30 N.

Ap—0 to 6 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; common fine flakes of mica; moderately acid; clear wavy boundary.

Bw1—6 to 19 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common medium roots; common fine flakes of mica; strongly acid; gradual wavy boundary.

Bw2—19 to 40 inches; dark yellowish brown (10YR 4/4) sandy clay loam; weak coarse subangular blocky structure; friable; few medium roots; few thin strata of yellowish brown (10YR 5/6) fine sandy loam; many fine flakes of mica; strongly acid; clear smooth boundary.

Bw3—40 to 57 inches; brown (7.5YR 4/4) sandy clay loam; weak coarse subangular blocky structure; friable; many fine flakes of mica; strongly acid; clear wavy boundary.

Bw4—57 to 72 inches; strong brown (7.5YR 5/6) sandy clay loam; common medium distinct dark yellowish brown (10YR 4/4) mottles; weak coarse subangular blocky structure; friable; strongly acid.

The thickness of the solum is 40 inches or more. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where the surface layer has been limed.

The A or Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6. Some pedons have few to common mottles in shades of yellow, brown, and red. Texture is loam, silt loam, silty clay loam, or sandy clay loam.

Troup Series

The Troup series consists of very deep, somewhat excessively drained soils that formed in sandy and loamy sediments. They are on ridgetops and side slopes in the uplands. Slopes range from 0 to 35 percent. The soils of the Troup series are loamy, siliceous, thermic Grossarenic Kandiudults.

Troup soils are geographically associated with Faceville, Greenville, Lucy, and Nankin soils. Faceville, Greenville, and Nankin soils are in slightly lower landscape positions. They have a clayey argillic horizon. Lucy soils are in landscape positions similar to those of the Troup soils. They have a sandy epipedon ranging from 20 to 40 inches thick.

Typical pedon of Troup loamy fine sand, 5 to 12 percent slopes, in a wooded area, 2,000 feet north and 830 feet west of the southeast corner of sec. 6, T. 7 N., R. 29 E.

A—0 to 5 inches; brown (10YR 5/3) loamy fine sand; weak fine granular structure; very friable; many fine and medium roots; moderately acid; gradual wavy boundary.

E1—5 to 20 inches; yellowish brown (10YR 5/8) loamy fine sand; single grained; loose; few medium roots; strongly acid; gradual wavy boundary.

E2—20 to 44 inches; yellowish red (5YR 5/8) loamy sand; single grained; loose; few medium roots; few fragments of ironstone; strongly acid; gradual wavy boundary.

Bt—44 to 65 inches; red (2.5YR 4/6) sandy clay loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; sand grains coated and bridged with clay; strongly acid.

The thickness of the solum is more than 80 inches. Reaction ranges from very strongly acid to moderately acid in the A and E horizons, except in areas that have been limed. The subsoil is very strongly acid or strongly acid.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4.

The E horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8. Texture is loamy sand or loamy fine sand.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. Texture is sandy loam or sandy clay loam.

Tumbleton Series

The Tumbleton series consists of very deep, well drained soils that formed in loamy and clayey sediments. They are on ridgetops and side slopes in the uplands. Slopes range from 2 to 12 percent. The soils of the Tumbleton series are clayey, kaolinitic, thermic Typic Kanhapludults.

Tumbleton soils are geographically associated with Dothan and Fuquay soils. Dothan and Fuquay soils are in slightly higher landscape positions. Dothan soils are fine-loamy. Fuquay soils have a sandy epipedon ranging from 20 to 40 inches thick.

Typical pedon of Tumbleton sandy loam, 2 to 5 percent slopes, eroded, in a cultivated area. 1,170 feet south and 100 feet west of the northeast corner of sec. 27, T. 6 N., R. 27 E.

Ap—0 to 4 inches; dark brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many fine and medium roots; about 10 percent rounded quartz gravel; strongly acid; clear wavy boundary.

Bt1—4 to 10 inches; yellowish brown (10YR 5/8) sandy clay; weak medium subangular blocky structure; friable; few fine and medium roots; few faint clay films on faces of peds; about 5 percent rounded quartz gravel; very strongly acid; clear wavy boundary.

Bt2—10 to 26 inches; brownish yellow (10YR 6/8) clay; moderate medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; few fine soft light gray (10YR 7/1) masses of clay; very strongly acid; gradual wavy boundary.

Bt3—26 to 37 inches; brownish yellow (10YR 6/6) clay; common fine prominent reddish brown (5YR 4/4) mottles; moderate medium angular blocky structure; firm; common distinct clay films on faces of peds; few fine soft light gray (10YR 7/1) masses of clay; very strongly acid; clear wavy boundary.

Bt4—37 to 49 inches; yellowish brown (10YR 5/8) clay; common fine distinct very pale brown (10YR 7/4) and common fine prominent reddish brown (5YR 4/4) mottles; moderate medium angular blocky parting to moderate fine angular blocky structure; firm; common distinct clay films on faces of peds; common fine soft light gray (10YR 7/1) masses of clay; very strongly acid; clear wavy boundary.

BC—49 to 56 inches; brownish yellow (10YR 6/6) clay; common fine distinct yellowish red (5YR 5/6) mottles; weak coarse subangular blocky structure; few faint clay films on faces of peds; few fine soft light gray

(10YR 7/1) masses of clay; common very thin strata of sandy clay loam; very strongly acid; abrupt smooth boundary.

C—56 to 72 inches; stratified yellow (10YR 7/6) loamy sand and yellowish brown (10YR 5/6) clay; common fine distinct pale brown (10YR 6/3) mottles; massive; friable; few fine soft light gray (10YR 7/1) masses of clay; extremely acid.

The thickness of the solum ranges from 40 to 60 inches. Reaction ranges from very strongly acid to slightly acid in the A horizon. It ranges from extremely acid to strongly acid in the B and C horizons. In most pedons, the surface layer contains 5 to 15 percent rounded quartz gravel.

The Ap or A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4.

The E horizon, if it occurs, has colors similar to those of the A horizon. Texture is loamy sand or sandy loam.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It has few or common mottles in shades of red, brown, and yellow. Texture is sandy clay or clay. Some pedons have a thin subhorizon of sandy clay loam in the upper part of the Bt horizon. Some pedons have fine masses of gray or light gray clay. The content of silt in the control section is less than 30 percent.

The BC horizon, which is present in most pedons, has colors similar to those of the Bt horizon, or it has no dominant matrix color and is mottled in shades of yellow, brown, and gray. Texture is clay, sandy clay, or sandy clay loam. Strata of coarser textured material are common in the horizon.

The C horizon has hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 1 to 6 or has no dominant matrix color and is mottled in shades of yellow, brown, and gray. It is commonly stratified with textures of clay, sandy clay, sandy clay loam, clay loam, sandy loam, or loamy sand. Some pedons contain as much as 20 percent ironstone gravel.

Yonges Series

The Yonges series consists of very deep, poorly drained soils that formed in loamy sediments. They are on flood plains and low terraces. Slopes range from 0 to 2 percent. The soils of the Yonges series are fine-loamy, mixed, thermic Typic Endoaqualfs.

Yonges soils are geographically associated with Bigbee, Mantachie, and Muckalee soils. Bigbee soils are at slightly higher elevations. They are sandy throughout. The somewhat poorly drained Mantachie soils are in slightly higher landscape positions. Muckalee soils are in landscape positions similar to those of the Yonges soils. They are coarse-loamy.

Typical pedon of Yonges fine sandy loam, in an area of Yonges and Muckalee soils, 0 to 2 percent slopes, frequently flooded, in a wooded river bottom; 2,330 feet south and 2,170 feet west of the northeast corner of sec. 36, T. 6 N., R. 26 E.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear wavy boundary.

Eg—4 to 14 inches; light brownish gray (10YR 6/2) fine sandy loam; common medium distinct yellowish brown (10YR 5/4) and brownish yellow (10YR 6/6) mottles; weak coarse subangular blocky structure; very friable; common fine and medium roots; strongly acid; clear wavy boundary.

Btg—14 to 45 inches; light brownish gray (10YR 6/2) sandy clay loam; common fine distinct yellow (10YR 7/6) and strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine and medium roots; few faint clay films on faces of most peds; moderately acid; clear wavy boundary.

Cg1—45 to 53 inches; light brownish gray (10YR 6/2) sandy clay; common fine distinct yellow (10YR 7/6) and strong brown (7.5YR 5/6) mottles; massive; firm; few fine and medium roots; slightly acid; clear wavy boundary.

Cg2—53 to 72 inches; gray (N 6/0) stratified sandy clay loam and loamy sand; massive; very friable; slightly acid.

The thickness of the solum is more than 40 inches. Reaction ranges from strongly acid to mildly alkaline in the surface layer and in the upper part of the subsoil. It ranges from slightly acid to moderately alkaline in the lower part of the subsoil and in the substratum.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The Eg horizon, which is present in most pedons, has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. Texture is sandy loam or fine sandy loam. Most pedons have mottles in shades of yellow, brown, and red.

The Btg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2. It has mottles in shades of yellow, red, and brown. Texture is commonly sandy clay loam or clay loam but also includes sandy clay in the lower part.

The Cg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral in hue. It is commonly stratified with sandy to clayey material or has texture of sandy clay loam, clay loam, or sandy clay.

Formation of the Soils

In this section, the factors of soil formation are related to the soils in Henry County and the processes of horizon differentiation are explained.

Factors of Soil Formation

Soil is a natural, three-dimensional body on the earth's surface that supports plants. It forms through weathering and other processes that act on deposited or accumulated geologic material. The kind of soil that forms depends on the type of parent material; the climate under which soil material has existed since accumulation; the relief, or lay of the land; the plant and animal life in and on the soil; and the length of time that the forces of soil formation have acted on the soil material. The relative importance of each of these factors differs from place to place; in some areas, one factor is more important, and in other areas another may dominate. A modification or variation in any of the factors results in a different kind of soil.

Climate and living organisms are the active factors of soil formation. They act on parent material and change it to a natural body with definite characteristics. The effects of climate and living organisms are conditioned by relief, which influences surface drainage, the amount of water that percolates through the soil, the rate of erosion, and the kind of vegetation that grows on the soil. The nature of the parent material also affects the kind of soil profile that is formed. Time is needed for the parent material to change into a soil. The development of a distinct soil horizon normally requires a long period of time.

Parent Material

The soils of Henry County formed mainly in two kinds of parent material—marine sediments that have undergone considerable weathering in place and water-deposited material on stream terraces and flood plains. Dothan, Norfolk, Tumbleton, and Orangeburg soils formed in weathered marine sediment. Kolomoki, Yonges, Riverview, and Muckalee soils formed in the water-deposited material on stream terraces and flood plains.

Climate

The climate of Henry County is warm and humid. Summers are long and hot. Winters are short and mild, and the ground rarely freezes to a depth of more than a few inches. The climate is fairly even throughout the county and accounts for few differences among the soils. Rainfall averages 54 inches a year.

This mild, humid climate favors rapid decomposition of organic matter and increases the rate of chemical reactions in the soil. The plentiful rainfall leaches large amounts of soluble bases and carries the less soluble fine particles downward, resulting in acid and sandy soils that are low in natural fertility. The large amount of moisture and the warm temperature favor the growth of bacteria and fungi and speed the decomposition of organic matter, resulting in soils that are low in organic matter content.

Relief

Relief influences the formation of soils through its effect on drainage, runoff, and erosion. In Henry County, the topography ranges from nearly level to very steep. The elevation ranges from 120 to 550 feet above sea level. Large, flat areas and depressions generally are poorly drained, and accumulated water, received mainly as runoff from adjacent areas, slows the formation of soils. As the slope increases, the hazard of erosion and the runoff rate increase and the rate of leaching decreases. In places, the rate of erosion nearly keeps pace with the rate of soil formation. Thus, the soils in steeply sloping areas are generally thin and weakly developed.

The aspect of the slope affects the microclimate. Soils on south- or southwest-facing slopes warm up somewhat earlier in spring and generally reach a higher temperature each day than soils on north-facing slopes. The warmer soil temperature results in accelerated chemical weathering. The soils on north-facing slopes retain moisture longer because they are in shade for longer periods and the temperature is lower. In Henry County, differences caused by the direction of slope are slight and are of minor importance in the formation of soils.

Plants and Animals

Living organisms greatly influence the processes of soil formation and the characteristics of the soils. Trees, grasses, earthworms, rodents, fungi, bacteria, and other forms of plant and animal life are affected by the other soil-forming factors. Animal activity is largely confined to the surface layer of the soil. The soil is continually mixed by their activity, which improves water infiltration. Plant roots create channels through which air and water move more rapidly, thereby improving soil structure and increasing the rate of chemical reactions in the soil.

Microorganisms are important in the decomposition of organic matter, which releases plant nutrients and chemicals into the soil. These nutrients are either used by the plants or are leached from the soil. Human activities have a strong influence on plant and animal populations in the soil and thus affect the future rate of soil formation.

The native vegetation in the uplands of Henry County consisted dominantly of coniferous and deciduous trees. The understory species were gallberry, southern bayberry, holly, panicum, bluestem, American beautyberry, indiangrass, longleaf uniola, and dogwood. These species represent only a very limited number of species that once grew in this county. They can be used as a guide to the plants that presently grow in the county.

The plant communities in the area are also reflected in the species distribution of fauna. Animals, in turn, have an impact on the soil properties of a particular area. For example, worms, moles, armadillo, and gophers can improve aeration in a compacted soil. Microbes that thrive in a particular plant community will react to various soil conditions and consequently influence the soil profile by providing decayed organic matter and nitrogen to the soil matrix.

Time

If all other factors of soil formation are equal, the degree of soil formation is in direct proportion to time. If soil-forming factors have been active for a long time, horizon development is stronger than if these same factors have been active for a relatively short time.

Geologically, the soils in Henry County are relatively young. The youngest soils are the alluvial soils on active flood plains of streams and rivers. These soils receive deposits of sediment and are undergoing a cumulative soil-forming process. In most cases, these young soils have very weakly defined horizons, mainly because the soil-forming processes have only been active for a short time.

Soils on terraces of the Chattahoochee River are older than soils on flood plains but are still relatively young. Although they formed in material deposited by the river, the river channel is now deeper and overflow no longer reaches the soils. Many of these soils have relatively strong horizon development.

The oldest soils in the county are in the uplands. They formed in marine sediments that have undergone considerable weathering.

Processes of Horizon Differentiation

The processes involved in the formation of soil horizons are accumulation of organic matter, leaching of calcium carbonate and bases, reduction and transfer of iron, and formation and translocation of silicate clay minerals. These processes can occur in combination or individually, depending on the integration of the factors of soil formation.

Most soils have four main horizons. The A horizon is the surface layer. It is the horizon of maximum accumulation of organic matter. The E horizon, usually called the subsurface layer, is the horizon of maximum loss of soluble or suspended material. Fuquay soils have an A horizon and an E horizon. Other soils, such as Mantachie soils, have an A horizon but do not have an E horizon. Organic matter has accumulated in the surface layer of all soils in Henry County to form an A horizon. The content of organic matter varies in different soils because of differences in relief, wetness, and natural fertility.

The B horizon, usually called the subsoil, lies immediately below the A or E horizon. It is the horizon of maximum accumulation of dissolved or suspended material, such as iron or clay. The B horizon has not yet developed in very young soils, such as Muckalee soils.

The C horizon is the substratum. It has been affected very little by soil-forming processes, but it may be somewhat modified by weathering.

The chemical reduction and transfer of iron, called gleying, is evident in the wet soils in the county. Gleying results in gray colors in the subsoil and gray mottles in other horizons. The gray colors indicate the reduction and loss of iron and manganese. The horizons of some soils, such as in the Clarendon soils, have reddish-brown mottles and dark concretions, which indicate a segregation of iron or manganese.

Leaching of carbonates and bases has occurred in most of the soils in the county. This process contributes to the development of distinct horizons and to the naturally low fertility and acid reaction of some soils.

In uniform materials, natural drainage generally is closely associated with slope or relief. It generally affects the color of the soil. Soils that formed under good drainage conditions, such as Orangeburg soils, have a subsoil that is uniformly bright in color. Soils that formed under poor drainage conditions, such as Meggett and

Yonges soils, have a grayish color. Soils that formed where drainage is intermediate have a subsoil that is mottled in shades of gray and brown. Clarendon and Goldsboro soils are examples. The grayish color persists even after artificial drainage is provided.

In steep areas, the surface soil erodes. In low areas or in depressions, soil materials often accumulate and add to the thickness of the surface layer. In some areas, the formation of soil materials and the rates of removal are in equilibrium with soil development. The degree of relief is also related to the eluviation of clay from the E horizon to the Bt horizon.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

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:

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, and K), expressed as a percentage of the total cation-exchange capacity.

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

Bottom land. The normal flood plain of a stream, subject to flooding.

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.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

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.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

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.

Deferred grazing. Postphoning grazing or resting grazingland for a prescribed period.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of 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 human or animal activities or of a catastrophe in nature, such as fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil is not a source of gravel or sand for construction purposes.

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.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors 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.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue 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, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated rock (unweathered bedrock) beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-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.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

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.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

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.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. 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).

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 with hue of 10YR, 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.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

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, such as 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.

Pitting (in tables). Pits are caused by melting ground ice. They form on the soil after plant cover is removed.

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). Refers to areas where 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 degrees of acidity or alkalinity, expressed as pH values, are:

Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Rippable bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 drawbar horsepower rating.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil adversely affects the specified use.

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.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

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.

Sinkhole. A depression in the landscape where limestone has been dissolved.

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.

Slippage (in tables). The soil mass is susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of 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, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Breaking up a compact subsoil by pulling a special chisel through the soil.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E 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. An embankment, or ridge, constructed on the contour or at a slight angle to the contour across sloping soils. The terrace intercepts surface runoff, so that water soaks into the soil or flows slowly to a prepared outlet.

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.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

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.

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.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1950-81 at Headland, Alabama)

Month	Temperature: Average daily maximum	Temperature: Average daily minimum	Temperature: Average daily	Temperature: 2 years in 10 will have-- Maximum temperature higher than--	Temperature: 2 years in 10 will have-- Minimum temperature lower than--	Temperature: Average number of growing degree days*	Precipitation: Average	Precipitation: 2 years in 10 will have-- Less than--	Precipitation: 2 years in 10 will have-- More than--	Precipitation: Average number of days with 0.10 inch or more	Precipitation: Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	58.7	36.8	47.8	78	14	149	5.15	2.55	7.40	7	0.1
February----	62.3	39.3	50.8	82	19	154	5.23	2.87	7.31	6	0.1
March-------	69.5	45.9	57.7	86	26	265	5.47	2.77	7.81	7	0.0
April-------	78.6	54.2	66.4	90	37	492	4.45	1.92	6.59	5	0.0
May---------	84.9	61.8	73.4	96	46	725	4.24	1.53	6.48	6	0.0
June--------	90.1	67.8	79.0	100	56	870	4.45	2.33	6.30	7	0.0
July--------	91.0	70.0	80.5	99	63	946	5.90	3.77	7.82	9	0.0
August------	90.5	69.3	79.9	97	60	927	5.10	2.55	7.30	7	0.0
September---	87.2	65.7	76.5	96	51	795	4.02	1.54	6.08	6	0.0
October-----	78.5	53.9	66.2	91	34	502	2.28	0.47	3.71	3	0.0
November----	68.8	44.0	56.4	86	23	213	3.09	1.46	4.48	5	0.0
December----	61.4	38.3	49.9	80	18	114	4.97	2.46	7.14	7	0.0
Yearly:											
Average---	76.8	53.9	65.4	---	---	---	---	---	---	---	---
Extreme---	---	---	---	100	13	---	---	---	---	---	---
Total-----	---	---	---	---	---	6,152	54.35	45.81	63.70	75	0.2

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1950-81 at Headland, Alabama)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Mar. 3	Mar. 18	Apr. 4
2 years in 10 later than--	Feb. 21	Mar. 9	Mar. 26
5 years in 10 later than--	Feb. 2	Feb. 19	Mar. 8
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 24	Nov. 8	Oct. 28
2 years in 10 earlier than--	Dec. 3	Nov. 16	Nov. 2
5 years in 10 earlier than--	Dec. 19	Nov. 30	Nov. 12

TABLE 3.--GROWING SEASON

(Recorded in the period 1950-81 at Headland, Alabama)

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	284	250	217
8 years in 10	295	261	228
5 years in 10	316	284	248
2 years in 10	339	306	269
1 year in 10	360	318	280

TABLE 4.--SUITABILITY AND LIMITATIONS OF GENERAL SOIL MAP UNITS FOR SPECIFIED USES

Map unit	Extent of area	Cultivated crops	Pasture and hay	Woodland	Urban uses
	Pct				
1. Kolomoki-Riverview-Meggett	2	Suited: flooding.	Suited: flooding.	Well suited	Poorly suited: flooding.
2. Mantachie-Muckalee-Yonges	4	Poorly suited: wetness, flooding.	Poorly suited: wetness, flooding.	Suited: wetness, flooding, restricted use of equipment, seedling mortality.	Poorly suited: wetness, flooding.
3. Dothan-Bonifay-Fuquay	5	Well suited	Well suited	Well suited	Suited: moderate to slow permeability, too sandy.
4. Tumbleton-Fuquay-Orangeburg	3	Suited: slope, soil droughtiness, low fertility.	Well suited	Well suited	Suited: moderate and slow permeability, too sandy.
5. Dothan-Orangeburg-Greenville	12	Well suited	Well suited	Well suited	Well suited.
6. Dothan-Troup-Red Bay	6	Well suited	Well suited	Well suited	Well suited.
7. Troup-Fuquay-Bonifay	2	Suited: slope, low fertility, soil droughtiness.	Suited: low fertility, soil droughtiness.	Well suited	Suited: moderate and slow permeability, too sandy.
8. Tumbleton-Fuquay-Dothan	3	Suited: slope, low fertility, soil droughtiness.	Well suited	Well suited	Suited: moderately slow and slow permeability, too sandy.
9. Faceville-Nankin-Conecuh	9	Suited: slope, low fertility.	Well suited	Well suited	Suited: moderately slow and very slow permeability, shrink-swell.
10. Troup-Nankin-Orangeburg	16	Suited: slope, low fertility, soil droughtiness.	Well suited	Well suited	Suited: moderate and moderately slow permeability, too sandy.

TABLE 4.--SUITABILITY AND LIMITATIONS OF GENERAL SOIL MAP UNITS FOR SPECIFIED USES--Continued

Map unit	Extent of area	Cultivated crops	Pasture and hay	Woodland	Urban uses
	Pct				
11. Troup-Nankin-Fuquay	2	Suited: slope, low fertility, soil droughtiness.	Well suited	Well suited	Suited: moderate to slow permeability, too sandy.
12. Lucy-Nankin-Troup	6	Poorly suited: slope, low fertility, soil droughtiness.	Poorly suited: slope, low fertility, soil droughtiness.	Suited: restricted use of equipment, hazard of erosion, seedling mortality.	Poorly suited: slope, moderate and moderately slow permeability, too sandy.
13. Troup-Nankin	21	Poorly suited: slope, low fertility, soil droughtiness.	Suited: slope, low fertility, soil droughtiness.	Suited: restricted use of equipment, hazard of erosion, seedling mortality.	Poorly suited: slope, moderate and moderately slow permeability, too sandy.
14. Lucy-Nankin	9	Poorly suited: slope, low fertility, soil droughtiness.	Suited: slope, low fertility, soil droughtiness.	Suited: restricted use of equipment, hazard of erosion, seedling mortality.	Poorly suited: slope, moderate and moderately slow permeability, too sandy.

TABLE 5.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AbB	Albany loamy fine sand, 0 to 4 percent slopes	880	0.2
BmA	Bigbee-Muckalee complex, 0 to 2 percent slopes, frequently flooded	1,710	0.5
BnB	Bonifay loamy fine sand, 0 to 5 percent slopes	9,560	2.6
BoA	Bonneau loamy fine sand, 0 to 2 percent slopes	750	0.2
CaA	Clarendon sandy loam, 0 to 2 percent slopes	970	0.3
CoB2	Conecuh sandy clay loam, 2 to 5 percent slopes, eroded	1,120	0.3
CoD2	Conecuh sandy clay loam, 5 to 12 percent slopes, eroded	2,790	0.8
DoA	Dothan fine sandy loam, 0 to 2 percent slopes	13,940	3.8
DoB	Dothan fine sandy loam, 2 to 5 percent slopes	11,770	3.2
DuB	Dothan-Urban land complex, 0 to 5 percent slopes	1,140	0.3
FaB2	Faceville sandy loam, 2 to 5 percent slopes, eroded	5,240	1.4
FnD2	Faceville-Nankin complex, 5 to 12 percent slopes, eroded	16,890	4.7
FuB	Fuquay loamy sand, 0 to 5 percent slopes	12,670	3.5
GoA	Goldsboro loamy sand, 0 to 2 percent slopes	1,600	0.4
GrA	Greenville fine sandy loam, 0 to 2 percent slopes	2,350	0.7
GrB	Greenville fine sandy loam, 2 to 5 percent slopes	2,170	0.6
KoB	Kolomoki fine sandy loam, 0 to 3 percent slopes, rarely flooded	3,980	1.1
LbB	Lucy loamy sand, 0 to 5 percent slopes	10,920	3.0
LnD	Lucy-Nankin complex, 5 to 12 percent slopes	5,970	1.6
LnE	Lucy-Nankin complex, 12 to 35 percent slopes	21,620	6.0
MaA	Mantachie loam, 0 to 2 percent slopes, frequently flooded	10,420	2.9
MgA	Meggett loam, 0 to 2 percent slopes, frequently flooded	1,990	0.6
MuA	Muckalee sandy loam, 0 to 1 percent slopes, frequently flooded	8,100	2.2
NaB2	Nankin sandy clay loam, 2 to 5 percent slopes, eroded	3,780	1.0
NaD2	Nankin sandy clay loam, 5 to 12 percent slopes, eroded	3,800	1.0
NcE	Nankin-Conecuh complex, 15 to 45 percent slopes	5,490	1.5
NnE	Nankin-Lucy complex, 20 to 60 percent slopes	7,910	2.2
NoA	Norfolk loamy sand, 0 to 2 percent slopes	2,330	0.6
NoB	Norfolk loamy sand, 2 to 5 percent slopes	2,140	0.6
OrA	Orangeburg sandy loam, 0 to 2 percent slopes	8,160	2.2
OrB	Orangeburg sandy loam, 2 to 5 percent slopes	15,580	4.3
OuC	Orangeburg-Urban land complex, 0 to 8 percent slopes	1,720	0.5
PaA	Paxville loam, 0 to 2 percent slopes	2,790	0.8
Pb	Pits, borrow	370	0.1
Pm	Pits, mines	750	0.2
RbA	Red Bay fine sandy loam, 0 to 2 percent slopes	1,540	0.4
RbB	Red Bay fine sandy loam, 2 to 5 percent slopes	5,350	1.5
RvB	Riverview fine sandy loam, 0 to 5 percent slopes, occasionally flooded	1,660	0.5
TrB	Troup loamy fine sand, 0 to 5 percent slopes	18,680	5.1
TrD	Troup loamy fine sand, 5 to 12 percent slopes	45,270	12.5
TsE	Troup-Nankin complex, 12 to 35 percent slopes	42,570	11.7
TuB2	Tumbleton sandy loam, 2 to 5 percent slopes, eroded	10,730	3.0
TyD	Tumbleton-Fuquay complex, 5 to 12 percent slopes	20,060	5.5
YMA	Yonges and Muckalee soils, 0 to 2 percent slopes, frequently flooded	7,010	1.9
	Water	7,230	2.0
	Total	363,470	100.0

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS

(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)

Soil name and map symbol	Land capability	Corn	Soybeans	Peanuts	Cotton lint	Grain sorghum	Wheat	Pecans
		Bu	Bu	Lbs	Lbs	Bu	Bu	Cwt
AbB------------- Albany	IIIe	60	20	1,700	---	65	35	7.0
BmA------------- Bigbee-Muckalee	Vw	---	---	---	---	---	---	---
BnB------------- Bonifay	IIIs	60	25	2,400	500	65	40	7.0
BoA------------- Bonneau	IIs	80	30	3,000	700	85	50	7.0
CaA------------- Clarendon	IIw	125	35	2,800	500	110	35	12.0
CoB2------------ Conecuh	IVe	75	25	2,200	450	70	35	9.0
CoD2------------ Conecuh	VIe	---	---	---	---	---	---	9.0
DoA------------- Dothan	I	115	45	4,000	900	110	55	12.0
DoB------------- Dothan	IIe	110	40	4,000	800	100	50	12.0
DuB*. Dothan-Urban land								
FaB2------------ Faceville	IIIe	85	30	2,800	500	90	35	11.0
FnD2------------ Faceville-Nankin	VIe	---	---	---	---	---	---	10.0
FuB------------- Fuquay	IIs	85	35	3,200	650	85	50	7.0
GoA------------- Goldsboro	IIw	125	42	3,600	700	80	60	12.0
GrA------------- Greenville	I	100	45	3,600	825	100	60	11.0
GrB------------- Greenville	IIe	95	35	3,600	750	95	55	11.0
KoB------------- Kolomoki	I	115	35	3,000	600	110	35	12.0
LbB------------- Lucy	IIs	80	30	2,800	650	85	45	7.0

See footnote at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Peanuts	Cotton lint	Grain sorghum	Wheat	Pecans
		Bu	Bu	Lbs	Lbs	Bu	Bu	Cwt
LnD:		60	25	2,800	500	80	35	6.0
Lucy	IVs							
Nankin	IVe							
LnE: Lucy-Nankin	VIIe	---	---	---	---	---	---	---
MaA: Mantachie	Vw	---	---	---	---	---	---	---
MgA: Meggett	VIw	---	---	---	---	---	---	---
MuA: Muckalee	Vw	---	---	---	---	---	---	---
NaB2: Nankin	IIIe	65	25	2,200	---	6.5	---	9.0
NaD2: Nankin	VIe	---	---	---	---	---	---	9.0
NcE: Nankin-Conecuh	VIIe	---	---	---	---	---	---	---
NnE: Nankin-Lucy	VIIe	---	---	---	---	---	---	---
NoA: Norfolk	I	110	40	4,000	800	100	50	12.0
NoB: Norfolk	IIe	100	35	4,000	700	90	45	12.0
OrA: Orangeburg	I	110	40	4,000	1,000	110	55	12.0
OrB: Orangeburg	IIe	110	40	4,000	1,000	105	55	12.0
OuC*. Orangeburg-Urban land								
PaA: Paxville	VIw	---	---	---	---	---	---	---
Pb*: Pits, borrow	VIIIs	---	---	---	---	---	---	---
Pm*: Pits, mines	VIIIs	---	---	---	---	---	---	---
RbA: Red Bay	I	100	40	4,000	800	110	55	12.0
RbB: Red Bay	IIe	90	35	3,600	750	105	50	12.0
RvB: Riverview	IIw	130	40	3,000	---	110	55	12.0

See footnote at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Peanuts	Cotton lint	Grain sorghum	Wheat	Pecans
		Bu	Bu	Lbs	Lbs	Bu	Bu	Cwt
TrB------------- Troup	IIIs	60	25	2,400	500	65	40	7.0
TrD------------- Troup	VIs	---	---	---	---	---	---	5.0
TsE------------- Troup-Nankin	VIIe	---	---	---	---	---	---	---
TuB2------------ Tumbleton	IVe	60	20	1,900	360	80	25	9.0
TyD-------------		---	---	---	---	---	---	9.0
Tumbleton------	IVe							
Fuquay--------	IIIs							
YMA------------- Yonges and Muckalee	Vw	---	---	---	---	---	---	---

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--YIELDS PER ACRE OF PASTURE AND HAY

(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)

Soil name and map symbol	Alfalfa hay	Bahiagrass	Improved bermudagrass hay	Improved bermudagrass	Cool-season annuals	Warm-season annuals
	Tons	AUM*	Tons	AUM*	AUM*	AUM*
AbB------------- Albany	---	6.5	4.0	7.0	3.5	4.0
BmA------------- Bigbee-Muckalee	---	7.0	---	7.0	3.5	4.0
BnB------------- Bonifay	2.0	7.0	4.0	8.0	4.0	4.0
BoA------------- Bonneau	2.5	8.0	4.5	8.5	4.5	4.0
CaA------------- Clarendon	2.5	7.5	7.0	8.0	4.0	6.0
CoB2------------ Conecuh	3.0	6.0	3.0	7.0	4.0	5.0
CoD2------------ Conecuh	2.0	4.5	2.0	6.5	4.0	5.0
DoA------------- Dothan	5.5	8.0	7.0	10.0	5.0	6.0
DoB------------- Dothan	5.5	7.0	7.0	10.0	5.0	6.0
DuB**. Dothan-Urban land						
FaB2------------ Faceville	3.0	7.0	5.0	8.0	4.5	5.0
FnD2------------ Faceville-Nankin	2.0	7.0	4.5	7.0	4.0	5.0
FuB------------- Fuquay	2.0	7.0	5.0	8.0	4.0	5.0
GoA------------- Goldsboro	2.5	8.0	5.5	8.0	5.0	6.0
GrA------------- Greenville	5.5	8.5	5.5	10.0	5.0	6.0
GrB------------- Greenville	5.5	8.5	5.5	10.0	5.0	6.0
KoB------------- Kolomoki	3.0	7.0	4.5	10.0	4.0	5.0
LbB------------- Lucy	2.0	7.0	4.5	8.0	4.0	5.0

See footnotes at end of table.

TABLE 7.--YIELDS PER ACRE OF PASTURE AND HAY--Continued

Soil name and map symbol	Alfalfa hay	Bahiagrass	Improved bermudagrass hay	Improved bermudagrass hay	Cool-season annuals	Warm-season annuals
	Tons	AUM*	Tons	AUM*	AUM*	AUM*
LnD: Lucy, Nankin	2.0	6.0	5.0	7.0	4.5	5.0
LnE. Lucy-Nankin						
MaA Mantachie	---	8.0	---	---	5.0	6.0
MgA. Meggett						
MuA Muckalee	---	7.0	---	---	---	---
NaB2 Nankin	3.0	7.0	4.0	9.5	4.0	5.0
NaD2 Nankin	2.0	6.0	3.0	7.5	4.5	5.0
NcE. Nankin-Conecuh						
NnE. Nankin-Lucy						
NoA Norfolk	3.0	8.0	6.0	9.0	4.5	5.5
NoB Norfolk	3.0	8.0	6.0	9.0	4.5	5.5
OrA Orangeburg	5.5	8.0	7.0	10.5	5.0	6.0
OrB Orangeburg	5.5	8.0	7.0	10.5	5.0	6.0
OuC**. Orangeburg-Urban land						
PaA. Paxville						
Pb**. Pits, borrow						
Pm**. Pits, mines						
RbA Red Bay	5.5	7.5	6.0	10.0	5.0	6.0
RbB Red Bay	5.5	7.5	6.0	9.5	5.0	6.0
RvB Riverview	4.0	8.0	5.0	9.0	4.0	5.0

See footnotes at end of table.

TABLE 7.--YIELDS PER ACRE OF PASTURE AND HAY--Continued

Soil name and map symbol	Alfalfa hay	Bahiagrass	Improved bermudagrass hay	Improved bermudagrass hay	Cool-season annuals	Warm-season annuals
	Tons	AUM*	Tons	AUM*	AUM*	AUM*
TrB----------- Troup	2.0	7.0	4.0	8.0	4.0	4.5
TrD----------- Troup	---	5.5	4.0	6.5	3.5	4.0
TsE. Troup-Nankin						
TuB2---------- Tumbleton	3.0	5.5	4.0	6.5	4.0	5.0
TyD----------- Tumbleton----- Fuquay--------	2.0	4.5	3.0	6.0	3.5	4.0
YMA. Yonges and Muckalee						

* 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.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--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)

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
AbB------------- Albany	9W	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	85	120	Loblolly pine, slash pine.
						Slash pine----------	85	---	
						Longleaf pine-------	80	---	
BmA**:									
Bigbee----------	9S	Slight	Slight	Severe	Slight	Loblolly pine-------	90	120	Loblolly pine.
Muckalee-------	9W	Slight	Severe	Severe	Slight	Loblolly pine-------	90	131	Loblolly pine, sweetgum, eastern cottonwood, American sycamore, Nuttall oak.
						Sweetgum------------	90	---	
						Slash pine----------	90	---	
						Water oak-----------	90	---	
						Green ash-----------	85	---	
						Eastern cottonwood--	100	---	
BnB------------- Bonifay	10S	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	85	120	Slash pine, loblolly pine, longleaf pine.
						Slash pine----------	85	---	
						Longleaf pine-------	75	---	
BoA------------- Bonneau	9S	Slight	Moderate	Moderate	Slight	Loblolly pine-------	90	131	Loblolly pine, longleaf pine.
						Longleaf pine-------	75	---	
CaA------------- Clarendon	9W	Slight	Slight	Slight	Moderate	Loblolly pine-------	90	131	Loblolly pine, slash pine, yellow-poplar, sweetgum.
						Slash pine----------	90	---	
						Sweetgum------------	85	---	
CoB2, CoD2------ Conecuh	9C	Slight	Slight	Slight	Severe	Loblolly pine-------	90	131	Loblolly pine, slash pine, water oak, sweetgum.
						Slash pine----------	90	---	
						Shortleaf pine------	80	---	
DoA, DoB-------- Dothan	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	90	131	Loblolly pine, slash pine, longleaf pine.
						Slash pine----------	85	---	
						Longleaf pine-------	80	---	
						Hickory-------------	---	---	
						Water oak-----------	---	---	
DuB**. Dothan-Urban land									
FaB2------------ Faceville	8A	Slight	Slight	Slight	Moderate	Loblolly pine-------	80	110	Loblolly pine, slash pine.
						Slash pine----------	80	---	
						Longleaf pine-------	70	---	
FnD2**:									
Faceville------	8A	Slight	Slight	Slight	Moderate	Loblolly pine-------	80	110	Loblolly pine, slash pine.
						Slash pine----------	80	---	
						Longleaf pine-------	70	---	
Nankin---------	8A	Slight	Slight	Slight	Moderate	Loblolly pine-------	80	110	Loblolly pine, slash pine.
						Slash pine----------	80	---	
						Longleaf pine-------	70	---	

See footnotes at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi- nation symbol	Management concerns: Erosion hazard	Equip- ment limita- tion	Seedling mortal- ity	Plant competi- tion	Potential productivity: Common trees	Site index	Volume*	Trees to plant
FuB------------- Fuquay	8S	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	90	131	Loblolly pine, slash pine, longleaf pine.
						Longleaf pine-------	75	---	
						Slash pine----------	90	---	
GoA------------- Goldsboro	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	90	131	Loblolly pine, slash pine.
						Longleaf pine-------	75	---	
						Slash pine----------	95	---	
						Sweetgum------------	90	---	
GrA, GrB-------- Greenville	8A	Slight	Slight	Slight	Moderate	Loblolly pine-------	85	120	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	70	---	
						Slash pine----------	85	---	
KoB------------- Kolomoki	9A	Slight	Slight	Slight	Moderate	Loblolly pine-------	95	142	Loblolly pine, slash pine.
						Slash pine----------	95	---	
						Longleaf pine-------	80	---	
						Sweetgum------------	90	---	
LbB------------- Lucy	8S	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	85	120	Slash pine, longleaf pine, loblolly pine.
						Longleaf pine-------	70	---	
						Slash pine----------	85	---	
LnD**:									
Lucy-----------	8S	Slight	Moderate	Moderate	Moderate	Loblolly pine-------	85	120	Slash pine, longleaf pine, loblolly pine.
						Longleaf pine-------	70	---	
						Slash pine----------	85	---	
Nankin---------	8A	Slight	Slight	Slight	Moderate	Loblolly pine-------	80	110	Loblolly pine, slash pine.
						Slash pine----------	80	---	
						Longleaf pine-------	70	---	
LnE**:									
Lucy-----------	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine-------	80	110	Longleaf pine, loblolly pine.
						Longleaf pine-------	70	---	
Nankin---------	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine-------	80	110	Loblolly pine, slash pine.
						Slash pine----------	80	---	
						Longleaf pine-------	70	---	
MaA------------- Mantachie	10W	Slight	Severe	Severe	Severe	Loblolly pine-------	100	154	Loblolly pine, slash pine, cherrybark oak, green ash, sweetgum, yellow-poplar.
						Slash pine----------	90	---	
						Cherrybark oak------	100	---	
						Green ash-----------	80	---	
						Sweetgum------------	95	---	
						Yellow-poplar-------	95	---	
MgA------------- Meggett	10W	Slight	Severe	Severe	Severe	Loblolly pine-------	100	154	Slash pine, loblolly pine.
						Slash pine----------	100	---	
MuA------------- Muckalee	9W	Slight	Severe	Severe	Slight	Loblolly pine-------	90	131	Sweetgum, loblolly pine, eastern cottonwood, American sycamore, Nuttall oak.
						Sweetgum------------	90	---	
						Slash pine----------	90	---	
						Water oak-----------	90	---	
						Green ash-----------	85	---	
						Eastern cottonwood--	100	---	

See footnotes at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	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: Volume*	Trees to plant
NaB2, NaD2: Nankin	8A	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Slash pine	80	---	
						Longleaf pine	70	---	
NcE**:									
Nankin	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Slash pine	80	---	
						Longleaf pine	70	---	
Conecuh	9R	Moderate	Moderate	Moderate	Severe	Loblolly pine	90	131	Loblolly pine, slash pine.
						Slash pine	90	---	
						Shortleaf pine	80	---	
NnE**:									
Nankin	8R	Severe	Severe	Moderate	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Slash pine	80	---	
						Longleaf pine	70	---	
Lucy	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine	80	110	Longleaf pine, loblolly pine.
						Longleaf pine	70	---	
NoA, NoB: Norfolk	8A	Slight	Slight	Slight	Moderate	Loblolly pine	85	120	Loblolly pine, slash pine.
						Longleaf pine	70	---	
						Slash pine	85	---	
OrA, OrB: Orangeburg	8A	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Slash pine, loblolly pine.
						Slash pine	85	---	
						Longleaf pine	75	---	
OuC**. Orangeburg-Urban land									
PaA: Paxville	11W	Slight	Severe	Severe	Severe	Loblolly pine	95	142	Loblolly pine, slash pine, sweetgum.
						Slash pine	90	---	
						Sweetgum	90	---	
						Baldcypress	---	---	
						Water oak	---	---	
RbA, RbB: Red Bay	9A	Slight	Slight	Slight	Moderate	Loblolly pine	90	131	Loblolly pine, slash pine, longleaf pine.
						Slash pine	90	---	
						Longleaf pine	75	---	
RvB: Riverview	11A	Slight	Slight	Slight	Severe	Loblolly pine	100	154	Loblolly pine, yellow-poplar, sweetgum, slash pine, eastern cottonwood, American sycamore.
						Yellow-poplar	110	---	
						Sweetgum	100	---	
TrB, TrD: Troup	8S	Slight	Moderate	Moderate	Moderate	Loblolly pine	80	110	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine	70	---	
						Slash pine	85	---	
TsE**:									
Troup	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine, longleaf pine.
						Longleaf pine	70	---	
						Slash pine	85	---	

See footnotes at end of table.

TABLE 8.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Plant competi-tion	Common trees	Site index	Volume*	
TsE**:									
Nankin	8R	Moderate	Moderate	Moderate	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Slash pine	80	---	
						Longleaf pine	70	---	
TuB2 Tumbleton	8A	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Longleaf pine	70	---	
						Slash pine	80	---	
						Sweetgum	---	---	
TyD**:									
Tumbleton	8A	Slight	Slight	Slight	Moderate	Loblolly pine	80	110	Loblolly pine, slash pine.
						Longleaf pine	70	---	
						Slash pine	80	---	
						Sweetgum	---	---	
Fuquay	9S	Slight	Moderate	Moderate	Moderate	Loblolly pine	90	131	Loblolly pine, longleaf pine.
						Longleaf pine	75	---	
						Slash pine	80	---	
YMA**:									
Yonges	10W	Slight	Severe	Moderate	Severe	Loblolly pine	100	154	Loblolly pine, slash pine, sweetgum, water oak.
						Sweetgum	100	---	
						Water oak	100	---	
Muckalee	9W	Slight	Severe	Severe	Slight	Loblolly pine	90	131	Loblolly pine, sweetgum, eastern cottonwood, American sycamore, Nuttall oak.
						Sweetgum	90	---	
						Slash pine	90	---	
						Water oak	90	---	
						Green ash	85	---	
						Eastern cottonwood	100	---	

* Volume 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 of loblolly pine.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--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)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AbB------------------ Albany	Severe: wetness.	Moderate: wetness, too sandy.	Severe: wetness.	Moderate: wetness, too sandy.	Severe: droughty.
BmA*:					
Bigbee--------------	Severe: flooding.	Moderate: flooding, too sandy.	Severe: flooding.	Moderate: too sandy, flooding.	Severe: flooding.
Muckalee------------	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
BnB------------------ Bonifay	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
BoA------------------ Bonneau	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
CaA------------------ Clarendon	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Slight---------	Slight.
CoB2----------------- Conecuh	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight---------	Moderate: droughty.
CoD2----------------- Conecuh	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight---------	Moderate: droughty, slope.
DoA------------------ Dothan	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
DoB------------------ Dothan	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
DuB*:					
Dothan--------------	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
Urban land----------	Variable-------	Variable-------	Variable-------	Variable-------	Variable.
FaB2----------------- Faceville	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
FnD2*:					
Faceville-----------	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight---------	Moderate: slope.
Nankin--------------	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight---------	Moderate: slope.
FuB------------------ Fuquay	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
GoA------------------ Goldsboro	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Slight----------	Slight.
GrA------------------ Greenville	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
GrB------------------ Greenville	Slight----------	Slight----------	Moderate: slope.	Slight----------	Slight.
KoB------------------ Kolomoki	Severe: flooding.	Slight----------	Slight----------	Slight----------	Slight.
LbB------------------ Lucy	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
LnD*:					
Lucy----------------	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
Nankin--------------	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
LnE*:					
Lucy----------------	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope, too sandy.	Severe: slope.
Nankin--------------	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
MaA------------------ Mantachie	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
MgA------------------ Meggett	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, flooding.
MuA------------------ Muckalee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
NaB2----------------- Nankin	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight----------	Slight.
NaD2----------------- Nankin	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
NcE*:					
Nankin--------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Conecuh-------------	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope.	Severe: slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
NnE*:					
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lucy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
NoA Norfolk	Slight	Slight	Slight	Slight	Slight.
NoB Norfolk	Slight	Slight	Moderate: slope.	Slight	Slight.
OrA Orangeburg	Slight	Slight	Slight	Slight	Slight.
OrB Orangeburg	Slight	Slight	Moderate: slope.	Slight	Slight.
OuC*:					
Orangeburg	Slight	Slight	Moderate: slope.	Slight	Slight.
Urban land	Variable	Variable	Variable	Variable	Variable.
PaA Paxville	Severe: flooding, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Pb* Pits, borrow	Variable	Variable	Variable	Variable	Variable.
Pm* Pits, mines	Variable	Variable	Variable	Variable	Variable.
RbA Red Bay	Slight	Slight	Slight	Slight	Slight.
RbB Red Bay	Slight	Slight	Moderate: slope.	Slight	Slight.
RvB Riverview	Severe: flooding.	Slight	Moderate: slope, flooding.	Slight	Moderate: flooding.
TrB Troup	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
TrD Troup	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
TsE*:					
Troup	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope, too sandy.	Severe: slope.
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
TuB2 Tumbleton	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Moderate: droughty.
TyD*: Tumbleton	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: droughty, slope.
Fuquay	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
YMA*: Yonges	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Muckalee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	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
AbB: Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
BmA*:										
Bigbee	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
Muckalee	Poor	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
BnB: Bonifay	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
BoA: Bonneau	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
CaA: Clarendon	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
CoB2: Conecuh	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
CoD2: Conecuh	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
DoA, DoB: Dothan	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
DuB*:										
Dothan.										
Urban land.										
FaB2: Faceville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FnD2*:										
Faceville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Nankin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FuB: Fuquay	Fair	Fair	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
GoA: Goldsboro	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
GrA, GrB: Greenville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KoB: Kolomoki	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LbB: Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	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
LnD*:										
Lucy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Nankin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LnE*:										
Lucy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Nankin	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
MaA Mantachie	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
MgA Meggett	Poor	Fair	Fair	Fair	Good	Good	Good	Fair	Good	Good.
MuA Muckalee	Poor	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
NaB2 Nankin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NaD2 Nankin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
NcE*:										
Nankin	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Conecuh	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
NnE*:										
Nankin	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lucy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
NoA, NoB Norfolk	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OrA, OrB Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OuC*:										
Orangeburg.										
Urban land.										
PaA Paxville	Very poor.	Very poor.	Very poor.	Fair	Poor	Good	Good	Very poor.	Poor	Good.
Pb* Pits, borrow	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
Pm*: Pits, mines	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
RbA: Red Bay	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RbB: Red Bay	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RvB: Riverview	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
TrB, TrD: Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
TsE*:										
Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
Nankin	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
TuB2: Tumbleton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
TyD*:										
Tumbleton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Fuquay	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
YMA*:										
Yonges	Poor	Fair	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
Muckalee	Poor	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--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 but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AbB: Albany	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: droughty.
BmA*:						
Bigbee	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Muckalee	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
BnB: Bonifay	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
BoA: Bonneau	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
CaA: Clarendon	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Slight.
CoB2: Conecuh	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Moderate: droughty.
CoD2: Conecuh	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: shrink-swell, low strength.	Moderate: droughty, slope.
DoA, DoB: Dothan	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
DuB*:						
Dothan	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
FaB2: Faceville	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
FnD2*:						
Faceville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Nankin	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
FuB: Fuquay	Slight	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
GoA: Goldsboro	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Slight.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
GrA, GrB Greenville	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
KoB Kolomoki	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: low strength, flooding.	Slight.
LbB Lucy	Moderate: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
LnD*:						
Lucy	Moderate: cutbanks cave, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
Nankin	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
LnE*:						
Lucy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
MaA Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
MgA Meggett	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: shrink-swell, wetness, flooding.	Severe: wetness, flooding.
MuA Muckalee	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
NaB2 Nankin	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
NaD2 Nankin	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
NcE*:						
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Conecuh	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: shrink-swell, low strength, slope.	Severe: slope.
NnE*:						
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lucy	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
NoA, NoB: Norfolk	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
OrA, OrB: Orangeburg	Slight	Slight	Slight	Slight	Slight	Slight.
OuC*:						
Orangeburg	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
PaA: Paxville	Severe: cutbanks cave, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: ponding.	Severe: ponding.
Pb*: Pits, borrow	Variable	Variable	Variable	Variable	Variable	Variable.
Pm*: Pits, mines	Variable	Variable	Variable	Variable	Variable	Variable.
RbA, RbB: Red Bay	Slight	Slight	Slight	Slight	Slight	Slight.
RvB: Riverview	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
TrB: Troup	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
TrD: Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
TsE*:						
Troup	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TuB2: Tumbleton	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, low strength.	Moderate: droughty.
TyD*:						
Tumbleton	Moderate: slope, too clayey.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Moderate: shrink-swell, low strength, slope.	Moderate: droughty, slope.
Fuquay	Moderate: slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
YMA*:						
Yonges	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
YMA*:						
Muckalee----------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--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 but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AbB: Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.
BmA*:					
Bigbee	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Muckalee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
BnB: Bonifay	Moderate: wetness, percs slowly.	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Fair: too sandy.
BoA: Bonneau	Severe: wetness.	Severe: seepage.	Severe: wetness.	Severe: seepage.	Good.
CaA: Clarendon	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
CoB2: Conecuh	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
CoD2: Conecuh	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
DoA: Dothan	Severe: wetness, percs slowly.	Moderate: seepage.	Moderate: wetness.	Slight	Good.
DoB: Dothan	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Moderate: wetness.	Slight	Good.
DuB*:					
Dothan	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Moderate: wetness.	Slight	Good.
Urban land	Variable	Variable	Variable	Variable	Variable.
FaB2: Faceville	Slight	Moderate: seepage, slope.	Moderate: too clayey.	Good	Fair: too clayey.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
FnD2*:					
Faceville	Moderate: slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
Nankin	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
FuB Fuquay	Severe: percs slowly, poor filter.	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Poor: seepage.
GoA Goldsboro	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
GrA Greenville	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
GrB Greenville	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
KoB Kolomoki	Moderate: flooding.	Severe: seepage.	Severe: seepage.	Moderate: flooding.	Fair: thin layer.
LbB Lucy	Slight	Severe: seepage.	Slight	Severe: seepage.	Fair: too sandy.
LnD*:					
Lucy	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Severe: seepage.	Fair: too sandy, slope.
Nankin	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
LnE*:					
Lucy	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: slope.
Nankin	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
MaA Mantachie	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
MgA Meggett	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
MuA Muckalee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
NaB2: Nankin	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
NaD2: Nankin	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
NcE*:					
Nankin	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Conecuh	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
NnE*:					
Nankin	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Lucy	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: slope.
NoA, NoB: Norfolk	Moderate: wetness, percs slowly.	Moderate: seepage, wetness.	Moderate: wetness.	Slight	Good.
OrA: Orangeburg	Slight	Moderate: seepage.	Slight	Slight	Good.
OrB: Orangeburg	Slight	Moderate: seepage, slope.	Slight	Slight	Good.
OuC*:					
Orangeburg	Slight	Moderate: seepage, slope.	Slight	Slight	Good.
Urban land	Variable	Variable	Variable	Variable	Variable.
PaA: Paxville	Severe: ponding.	Severe: seepage, ponding.	Severe: seepage, ponding.	Severe: ponding.	Poor: ponding.
Pb*: Pits, borrow	Variable	Variable	Variable	Variable	Variable.
Pm*: Pits, mines	Variable	Variable	Variable	Variable	Variable.
RbA: Red Bay	Slight	Moderate: seepage.	Slight	Slight	Good.
RbB: Red Bay	Slight	Moderate: seepage, slope.	Slight	Slight	Good.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
RvB: Riverview	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Fair: wetness.
TrB: Troup	Slight	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Poor: seepage.
TrD: Troup	Moderate: slope.	Severe: seepage, slope.	Moderate: slope, too sandy.	Severe: seepage.	Poor: seepage.
TsE*:					
Troup	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: seepage, slope.
Nankin	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
TuB2: Tumbleton	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey, hard to pack.
TyD*:					
Tumbleton	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
Fuquay	Severe: percs slowly.	Severe: seepage, slope.	Moderate: slope.	Severe: seepage.	Poor: seepage.
YMA*:					
Yonges	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Muckalee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--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 but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
AbB: Albany	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too sandy.
BmA*:				
Bigbee	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Muckalee	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
BnB: Bonifay	Good	Probable	Improbable: too sandy.	Fair: too sandy.
BoA: Bonneau	Good	Improbable: thin layer.	Improbable: excess fines.	Fair: too sandy.
CaA: Clarendon	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
CoB2, CoD2: Conecuh	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
DoA, DoB: Dothan	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
DuB*:				
Dothan	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
Urban land	Variable	Variable	Variable	Variable.
FaB2: Faceville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
FnD2*:				
Faceville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
FuB: Fuquay	Good	Improbable: thin layer.	Improbable: too sandy.	Fair: too sandy.
GoA: Goldsboro	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
GrA, GrB: Greenville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
KoB: Kolomoki	Good	Probable	Improbable: excess fines.	Poor: too clayey.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
LbB: Lucy	Good	Improbable: thin layer.	Improbable: excess fines.	Fair: too sandy.
LnD*:				
Lucy	Good	Improbable: thin layer.	Improbable: excess fines.	Fair: too sandy, slope.
Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
LnE*:				
Lucy	Fair: slope.	Improbable: thin layer.	Improbable: excess fines.	Poor: slope.
Nankin	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
MaA: Mantachie	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
MgA: Meggett	Poor: wetness, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
MuA: Muckalee	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
NaB2, NaD2: Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
NcE*:				
Nankin	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Conecuh	Poor: shrink-swell, low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
NnE*:				
Nankin	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Lucy	Poor: slope.	Improbable: thin layer.	Improbable: excess fines.	Poor: slope.
NoA, NoB: Norfolk	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
OrA, OrB: Orangeburg	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
OuC*:				
Orangeburg	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
Urban land	Variable	Variable	Variable	Variable.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
PaA: Paxville	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Pb*: Pits, borrow	Variable	Variable	Variable	Variable.
Pm*: Pits, mines	Variable	Variable	Variable	Variable.
RbA, RbB: Red Bay	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
RvB: Riverview	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
TrB: Troup	Good	Probable	Improbable: too sandy.	Fair: too sandy.
TrD: Troup	Good	Probable	Improbable: too sandy.	Fair: too sandy, slope.
TsE*:				
Troup	Fair: slope.	Probable	Improbable: too sandy.	Poor: slope.
Nankin	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
TuB2: Tumbleton	Fair: shrink-swell, low strength, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
TyD*:				
Tumbleton	Fair: shrink-swell, low strength, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Fuquay	Good	Improbable: thin layer.	Improbable: too sandy.	Fair: too sandy.
YMA*:				
Yonges	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
Muckalee	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--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 but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Limitations for-- Embankments, dikes, and levees	Features affecting-- Drainage	Features affecting-- Irrigation	Features affecting-- Terraces and diversions	Features affecting-- Grassed waterways
AbB: Albany	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Wetness, droughty.	Wetness, soil blowing.	Wetness, droughty.
BmA*: Bigbee	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
Muckalee	Moderate: seepage.	Severe: piping, wetness.	Flooding, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, soil blowing.	Wetness.
BnB: Bonifay	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Soil blowing	Droughty.
BoA: Bonneau	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Soil blowing	Droughty.
CaA: Clarendon	Moderate: seepage.	Moderate: piping.	Favorable	Wetness	Wetness, soil blowing.	Favorable.
CoB2: Conecuh	Moderate: slope.	Severe: hard to pack.	Deep to water	Slope, droughty.	Percs slowly	Percs slowly.
CoD2: Conecuh	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, droughty.	Slope, percs slowly.	Slope.
DoA: Dothan	Moderate: seepage.	Moderate: piping.	Deep to water	Favorable	Favorable	Favorable.
DoB: Dothan	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Favorable	Favorable.
DuB*: Dothan	Moderate: seepage.	Moderate: piping.	Deep to water	Favorable	Favorable	Favorable.
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
FaB2: Faceville	Moderate: seepage, slope.	Slight	Deep to water	Slope	Erodes easily	Erodes easily.
FnD2*: Faceville	Severe: slope.	Slight	Deep to water	Slope	Slope, erodes easily.	Slope, erodes easily.
Nankin	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
FuB: Fuquay	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, soil blowing.	Too sandy, soil blowing.	Droughty.
GoA: Goldsboro	Moderate: seepage.	Moderate: piping, wetness.	Favorable	Wetness.	Wetness, soil blowing.	Favorable.
GrA: Greenville	Moderate: seepage.	Severe: piping.	Deep to water	Favorable	Soil blowing	Favorable.
GrB: Greenville	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Soil blowing	Favorable.
KoB: Kolomoki	Severe: seepage.	Severe: thin layer.	Deep to water	Favorable	Soil blowing	Favorable.
LbB: Lucy	Severe: seepage.	Severe: piping.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
LnD*, LnE*:						
Lucy	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, fast intake, slope.	Too sandy, slope, soil blowing.	Slope, droughty.
Nankin	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.
MaA: Mantachie	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
MgA: Meggett	Slight	Severe: hard to pack, wetness.	Percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.	Wetness.
MuA: Muckalee	Moderate: seepage.	Severe: piping, wetness.	Flooding, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, soil blowing.	Wetness.
NaB2: Nankin	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Favorable	Favorable.
NaD2: Nankin	Severe: slope.	Moderate: piping.	Deep to water	Slope	Slope	Slope.
NcE*:						
Nankin	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.
Conecuh	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, droughty, fast intake.	Slope, percs slowly.	Slope.
NnE*:						
Nankin	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
NnE*:						
Lucy	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, fast intake, slope.	Too sandy, slope, soil blowing.	Slope, droughty.
NoA Norfolk	Moderate: seepage.	Moderate: piping.	Deep to water	Favorable	Soil blowing	Favorable.
NoB Norfolk	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Soil blowing	Favorable.
OrA Orangeburg	Moderate: seepage.	Moderate: piping.	Deep to water	Favorable	Soil blowing	Favorable.
OrB Orangeburg	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Soil blowing	Favorable.
OuC*:						
Orangeburg	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Soil blowing	Favorable.
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
PaA Paxville	Severe: seepage.	Severe: piping, ponding.	Ponding	Ponding	Ponding	Wetness.
Pb* Pits, borrow	Variable	Variable	Variable	Variable	Variable	Variable.
Pm* Pits, mines	Variable	Variable	Variable	Variable	Variable	Variable.
RbA Red Bay	Moderate: seepage.	Slight	Deep to water	Favorable	Favorable	Favorable.
RbB Red Bay	Moderate: seepage, slope.	Slight	Deep to water	Slope	Favorable	Favorable.
RvB Riverview	Severe: seepage.	Severe: piping.	Deep to water	Flooding	Soil blowing	Favorable.
TrB Troup	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Soil blowing	Droughty.
TrD Troup	Severe: seepage, slope.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, slope.	Slope, soil blowing.	Slope, droughty.
TsE*:						
Troup	Severe: seepage, slope.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, slope.	Slope, soil blowing.	Slope, droughty.
Nankin	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
TuB2------------- Tumbleton	Moderate: slope.	Severe: hard to pack.	Deep to water	Slope, droughty.	Soil blowing, percs slowly.	Percs slowly.
TyD*:						
Tumbleton--------	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, droughty.	Slope, soil blowing, percs slowly.	Slope, percs slowly.
Fuquay-----------	Severe: seepage.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
YMA*:						
Yonges-----------	Moderate: seepage.	Severe: piping, wetness.	Flooding-------	Wetness, soil blowing, flooding.	Wetness, soil blowing.	Wetness.
Muckalee---------	Moderate: seepage.	Severe: piping, wetness.	Flooding, cutbanks cave.	Wetness, flooding.	Wetness, too sandy, soil blowing.	Wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
AbB Albany	0-48	Loamy fine sand	SM	A-2	100	100	75-90	13-23	<20	NP
	48-62	Sandy loam	SM	A-2	100	100	75-92	22-30	<30	NP
BmA*:										
Bigbee	0-11	Loamy sand	SM	A-2-4	100	95-100	60-90	15-30	<20	NP
	11-65	Sand, fine sand, loamy sand.	SP-SM, SM	A-2-4, A-3	85-100	85-100	50-75	5-20	<20	NP
Muckalee	0-6	Sandy loam	SM	A-2, A-4	95-100	90-100	55-90	25-40	<20	NP-4
	6-72	Sandy loam, loamy sand.	SM	A-2, A-4	95-100	80-100	60-90	20-40	<20	NP-4
BnB Bonifay	0-54	Loamy fine sand	SM	A-2-4	98-100	98-100	65-95	13-20	<20	NP
	54-73	Sandy loam, sandy clay loam, fine sandy loam.	SC-SM, SC, SM	A-2-4, A-4, A-2-6, A-6	95-100	90-100	63-95	23-50	<30	NP-12
BoA Bonneau	0-23	Loamy fine sand	SM	A-2	100	100	50-95	15-35	<20	NP
	23-68	Sandy loam, sandy clay loam, fine sandy loam.	SC, SC-SM	A-2, A-6, A-4	100	100	60-100	30-50	21-40	4-21
CaA Clarendon	0-10	Sandy loam	SM, SC, SC-SM	A-2, A-4	98-100	85-100	70-95	20-40	<30	NP-10
	10-26	Sandy clay loam	SC, CL, SC-SM, CL-ML	A-4, A-6	98-100	85-100	75-95	36-55	20-40	5-15
	26-62	Sandy clay loam, sandy loam, sandy clay.	SC, CL, SC-SM, CL-ML	A-2, A-4, A-6	99-100	96-100	80-95	25-55	<40	NP-15
CoB2, CoD2 Conecuh	0-4	Sandy clay loam	SM, ML, CL-ML, SC-SM	A-4	95-100	95-100	70-100	40-70	<20	NP-5
	4-54	Clay, silty clay	ML, MH, CH	A-7	95-100	95-100	90-100	80-98	45-70	15-45
	54-72	Variable	---	---	---	---	---	---	---	---
DoA, DoB Dothan	0-9	Fine sandy loam	SM, SP-SM	A-2, A-4	95-100	92-100	75-90	20-40	<25	NP-5
	9-32	Sandy clay loam, sandy loam, fine sandy loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	92-100	60-90	23-49	<40	NP-16
	32-80	Sandy clay loam, sandy clay.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	95-100	92-100	70-95	30-53	25-45	4-23
DuB*:										
Dothan	0-9	Fine sandy loam	SM, SP-SM	A-2, A-4	95-100	92-100	75-90	20-40	<25	NP-5
	9-32	Sandy clay loam, sandy loam, fine sandy loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	92-100	60-90	23-49	<40	NP-16
	32-80	Sandy clay loam, sandy clay.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	95-100	92-100	70-95	30-53	25-45	4-23
Urban land	0-6	Variable	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
FaB2------------- Faceville	0-4	Sandy loam-------	SM, SC-SM	A-2, A-4	90-100	85-100	72-97	17-38	<25	NP-7
	4-9	Sandy clay loam, sandy clay.	SC, ML, CL, SM	A-4, A-6	98-100	90-100	85-98	46-66	<35	NP-13
	9-65	Sandy clay, clay, clay loam.	CL, SC, CH, ML	A-6, A-7	98-100	95-100	75-99	45-72	25-52	11-25
FnD2*:										
Faceville-------	0-4	Sandy loam-------	SM, SC-SM	A-2, A-4	90-100	85-100	72-97	17-38	<25	NP-7
	4-9	Sandy clay loam, sandy clay.	SC, ML, CL, SM	A-4, A-6	98-100	90-100	85-98	46-66	<35	NP-13
	9-65	Sandy clay, clay, clay loam.	CL, SC, CH, ML	A-6, A-7	98-100	95-100	75-99	45-72	25-52	11-25
Nankin----------	0-9	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	<20	NP
	9-54	Sandy clay, clay, clay loam, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	54-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
FuB-------------- Fuquay	0-32	Loamy sand-------	SP-SM, SM	A-2, A-3	95-100	90-100	50-83	5-35	10-20	NP
	32-41	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	85-100	85-100	70-90	23-45	20-45	NP-13
	41-65	Sandy clay loam	SC, SC-SM, SM	A-2, A-4, A-6, A-7-6	95-100	90-100	58-90	28-49	25-45	4-13
GoA-------------- Goldsboro	0-8	Loamy sand-------	SM	A-2	95-100	95-100	50-95	13-30	10-20	NP
	8-19	Sandy clay loam, sandy loam.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	98-100	95-100	60-100	25-55	20-37	4-18
	19-65	Sandy clay loam, clay loam, sandy clay.	SC, CL, CL-ML, CH	A-4, A-6, A-7-6	95-100	90-100	65-95	36-70	25-55	6-32
GrA, GrB--------- Greenville	0-5	Fine sandy loam	SM, SC, SC-SM, CL-ML	A-2, A-4	95-100	90-100	65-85	25-55	10-25	NP-10
	5-72	Clay loam, sandy clay, clay.	CL, SC, ML	A-6, A-7, A-4	98-100	95-100	80-99	40-80	28-50	7-25
KoB-------------- Kolomoki	0-13	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	95-100	95-100	80-98	30-55	0-25	NP-6
	13-35	Sandy clay, clay	CL	A-6, A-7	95-100	95-100	95-100	60-90	36-50	14-22
	35-48	Sandy clay, sandy clay loam.	ML, SC, CL, SM	A-4, A-6	95-100	95-100	95-98	40-60	30-40	7-15
	48-64	Sandy clay loam, sandy loam.	SM, SC, SC-SM	A-4, A-2	95-100	95-100	90-99	30-49	<30	NP-10
LbB-------------- Lucy	0-25	Loamy sand-------	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	<20	NP
	25-35	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
	35-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
LnD*, LnE*:										
Lucy-----------	0-25	Loamy sand-------	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	<20	NP
	25-35	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
	35-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20
Nankin---------	0-9	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	<20	NP
	9-54	Sandy clay, clay, clay loam, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	54-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
MaA-------------- Mantachie	0-8	Loam-------------	CL-ML, SC-SM, SM, ML	A-4	95-100	90-100	60-85	40-60	<20	NP-5
	8-64	Loam, clay loam, sandy clay loam.	CL, SC, SC-SM, CL-ML	A-4, A-6	95-100	90-100	80-95	45-80	20-40	5-15
MgA-------------- Meggett	0-13	Loam-------------	ML, CL-ML, CL	A-4, A-6	100	95-100	85-100	55-80	20-40	5-15
	13-23	Clay, sandy clay, clay loam.	CH, MH, CL	A-6, A-7	100	90-100	75-100	51-90	30-60	11-30
	23-48	Clay, sandy clay, clay loam.	CH, MH, CL, ML	A-6, A-7	100	90-100	75-100	51-90	35-65	11-30
	48-63	Sandy clay, sandy clay loam, clay.	SC, SM, ML, MH	A-4, A-6, A-7	90-100	65-100	50-100	36-90	30-60	7-25
MuA-------------- Muckalee	0-6	Sandy loam-------	SM	A-2, A-4	95-100	90-100	55-90	25-40	<20	NP-4
	6-72	Sandy loam, loamy sand.	SM	A-2, A-4	95-100	80-100	60-90	20-40	<20	NP-4
NaB2, NaD2------- Nankin	0-4	Sandy clay loam	SM, SC-SM, ML, CL-ML	A-4	90-100	90-100	70-95	36-55	<25	NP-7
	4-47	Sandy clay, clay, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	47-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
NcE*:										
Nankin----------	0-9	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	<20	NP
	9-54	Sandy clay, clay, clay loam, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	54-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
Conecuh---------	0-5	Loamy sand-------	SM	A-2, A-4	95-100	95-100	60-90	19-45	<20	NP
	5-31	Clay, silty clay	ML, MH, CH	A-7	95-100	95-100	90-100	80-98	45-70	15-45
	31-65	Variable---------	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
NnE*:										
Nankin	0-9	Loamy sand	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	<20	NP
	9-17	Sandy clay loam, sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	75-90	25-45	20-35	4-15
	17-54	Sandy clay, clay, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	54-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
Lucy	0-25	Loamy sand	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	<20	NP
	25-35	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
	35-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20
NoA, NoB Norfolk	0-10	Loamy sand	SM	A-2	95-100	92-100	50-95	13-30	15-20	NP
	10-35	Sandy loam, sandy clay loam, clay loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	95-100	91-100	70-96	30-63	20-38	4-15
	35-62	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, CL, CL-ML	A-4, A-6, A-7-6	100	98-100	65-98	36-72	25-52	4-23
OrA, OrB Orangeburg	0-10	Sandy loam	SM	A-2	98-100	95-100	75-95	20-35	<30	NP
	10-20	Sandy clay loam, sandy loam.	SC, CL, SM, SC-SM	A-6, A-4	98-100	95-100	71-96	38-58	22-40	3-19
	20-60	Sandy clay loam, sandy clay, sandy loam.	SC, CL	A-6, A-4, A-7	98-100	95-100	70-97	40-65	24-46	8-21
OuC*:										
Orangeburg	0-10	Sandy loam	SM	A-2	98-100	95-100	75-95	20-35	<30	NP
	10-20	Sandy clay loam, sandy loam.	SC, CL, SM, SC-SM	A-6, A-4	98-100	95-100	71-96	38-58	22-40	3-19
	20-60	Sandy clay loam, sandy clay, sandy loam.	SC, CL	A-6, A-4, A-7	98-100	95-100	70-97	40-65	24-46	8-21
Urban land	0-6	Variable	---	---	---	---	---	---	---	---
PaA Paxville	0-10	Loam	SM, ML, SC-SM	A-2, A-4	100	100	80-98	30-60	<35	NP-7
	10-56	Sandy clay loam, sandy loam, loam.	CL-ML, CL, SC-SM, SC	A-2, A-4, A-6	100	98-100	60-98	30-60	21-40	5-15
	56-65	Loamy sand, sand, fine sand.	SM, SP-SM	A-2, A-3, A-1	95-100	90-100	45-65	5-25	<20	NP
Pb* Pits, borrow	0-60	Variable	---	---	---	---	---	---	---	---
Pm* Pits, mines	0-60	Variable	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
RbA, RbB--------- Red Bay	0-7	Fine sandy loam	SM, SC-SM	A-2, A-4	100	95-100	60-85	15-45	<20	NP-4
	7-13	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	100	95-100	60-85	15-50	<35	NP-10
	13-45	Sandy clay loam	SC-SM, SC	A-2, A-4, A-6	100	95-100	70-90	24-50	18-40	4-16
	45-65	Sandy clay loam, sandy clay.	SC, CL	A-6, A-4, A-7	100	98-100	70-97	40-65	24-46	8-21
RvB------------- Riverview	0-6	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-2, A-4	95-100	90-100	85-95	30-60	<20	NP-7
	6-72	Sandy clay loam, silty clay loam, loam.	CL, ML, CL-ML	A-4, A-6	100	100	90-100	60-95	20-40	3-20
TrB, TrD--------- Troup	0-44	Loamy fine sand	SM, SP-SM	A-2, A-4	95-100	90-100	50-90	10-40	<20	NP
	44-65	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	95-100	90-100	60-90	24-55	19-40	4-20
TsE*:										
Troup-----------	0-44	Loamy fine sand	SM, SP-SM	A-2, A-4	95-100	90-100	50-90	10-40	<20	NP
	44-65	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	95-100	90-100	60-90	24-55	19-40	4-20
Nankin----------	0-9	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	<20	NP
	9-54	Sandy clay, clay, clay loam, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	54-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
TuB2------------ Tumbleton	0-4	Sandy loam-------	SM, SC-SM, ML, CL-ML	A-2-4, A-4	95-100	85-100	75-100	20-55	<20	NP-6
	4-10	Sandy clay, sandy clay loam.	SC, CL	A-6, A-7	95-100	95-100	80-100	35-60	35-48	15-25
	10-49	Sandy clay, clay	CH, CL, SC	A-7, A-7-5	95-100	95-100	80-100	45-95	44-80	22-45
	49-56	Sandy clay, clay, sandy clay loam.	CH, CL, SC	A-6, A-7	95-100	95-100	80-100	35-95	35-80	16-47
	56-72	Stratified loamy sand to clay.	---	---	90-100	80-100	75-100	60-100	---	---
TyD*:										
Tumbleton-------	0-4	Sandy loam-------	SM, SC-SM, ML, CL-ML	A-2-4, A-4	95-100	85-100	75-100	20-55	<20	NP-6
	4-10	Sandy clay, sandy clay loam.	SC, CL	A-6, A-7	95-100	95-100	80-100	35-60	35-48	15-25
	10-49	Sandy clay, clay	CH, CL, SC	A-7, A-7-5	95-100	95-100	80-100	45-95	44-80	22-45
	49-56	Sandy clay, clay, sandy clay loam.	CH, CL, SC	A-6, A-7	95-100	95-100	80-100	35-95	35-80	16-47
	56-72	Stratified loamy sand to clay.	---	---	90-100	80-100	75-100	60-100	---	---
Fuquay----------	0-32	Loamy sand-------	SP-SM, SM	A-2, A-3	95-100	90-100	50-83	5-35	10-20	NP
	32-41	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	85-100	85-100	70-90	23-45	20-45	NP-13
	41-65	Sandy clay loam	SC, SC-SM, SM	A-2, A-4, A-6, A-7-6	95-100	90-100	58-90	28-49	25-45	4-13

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
YMA*:										
Yonges----------	0-14	Fine sandy loam	SM, SC-SM, ML	A-4	100	100	70-85	40-55	<30	NP-7
	14-53	Sandy clay loam, clay loam, sandy clay.	CL-ML, CL, SC, SC-SM	A-4, A-6, A-7	100	100	95-100	40-70	20-45	6-28
	53-72	Fine sandy loam, sandy loam, sandy clay loam.	CL, ML, SC, SM	A-4, A-6	100	100	95-100	40-65	20-40	3-22
Muckalee--------	0-6	Sandy loam-------	SM	A-2, A-4	95-100	90-100	55-90	25-40	<20	NP-4
	6-72	Sandy loam, loamy sand.	SM	A-2, A-4	95-100	80-100	60-90	20-40	<20	NP-4

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--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 "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
AbB------------- Albany	0-48	1-10	1.40-1.55	6.0-20	0.02-0.04	3.6-6.5	Low----------	0.10	5	1-2
	48-62	1-20	1.50-1.70	2.0-6.0	0.08-0.10	4.5-6.0	Low----------	0.20		
BmA*:										
Bigbee----------	0-11	4-10	1.40-1.50	6.0-20	0.05-0.10	4.5-6.0	Low----------	0.10	5	.5-2
	11-65	1-10	1.40-1.50	6.0-20	0.05-0.08	4.5-6.0	Low----------	0.17		
Muckalee--------	0-6	5-20	1.35-1.45	0.6-2.0	0.08-0.12	5.1-7.3	Low----------	0.20	5	2-6
	6-72	5-20	1.35-1.50	0.6-2.0	0.08-0.12	5.6-8.4	Low----------	0.20		
BnB------------- Bonifay	0-54	6-12	1.50-1.60	6.0-20	0.05-0.10	4.5-6.5	Low----------	0.10	5	.5-3
	54-73	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-6.5	Low----------	0.24		
BoA------------- Bonneau	0-23	5-15	1.30-1.70	6.0-20	0.05-0.11	4.5-6.0	Low----------	0.10	5	.5-2
	23-68	13-35	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
CaA------------- Clarendon	0-10	5-15	1.30-1.50	2.0-6.0	0.10-0.14	4.5-6.5	Low----------	0.15	5	.5-3
	10-26	18-35	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	26-62	15-40	1.40-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low----------	0.15		
CoB2, CoD2------- Conecuh	0-4	7-25	1.40-1.60	0.6-2.0	0.10-0.15	3.6-5.5	Low----------	0.28	5	.5-2
	4-54	45-70	1.30-1.55	<0.06	0.08-0.19	3.6-5.5	High---------	0.32		
	54-72	---	---	<0.06	---	---	-------------	----		
DoA, DoB--------- Dothan	0-9	10-18	1.30-1.70	2.0-6.0	0.08-0.13	4.5-6.0	Low----------	0.24	5	.5-1
	9-32	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-6.0	Low----------	0.28		
	32-80	18-40	1.45-1.70	0.2-0.6	0.08-0.12	4.5-6.0	Low----------	0.28		
DuB*:										
Dothan----------	0-9	10-18	1.30-1.70	2.0-6.0	0.08-0.13	4.5-6.0	Low----------	0.24	5	.5-1
	9-32	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-6.0	Low----------	0.28		
	32-80	18-40	1.45-1.70	0.2-0.6	0.08-0.12	4.5-6.0	Low----------	0.28		
Urban land------	0-6	---	---	---	---	---	-------------	----	---	---
FaB2------------ Faceville	0-4	5-20	1.40-1.65	6.0-20	0.06-0.09	4.5-5.5	Low----------	0.28	5	.5-2
	4-9	20-36	1.35-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.37		
	9-65	35-55	1.25-1.60	0.6-2.0	0.12-0.18	4.5-6.0	Low----------	0.37		
FnD2*:										
Faceville-------	0-4	5-20	1.40-1.65	6.0-20	0.06-0.09	4.5-5.5	Low----------	0.28	5	.5-2
	4-9	20-36	1.35-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.37		
	9-65	35-55	1.25-1.60	0.6-2.0	0.12-0.18	4.5-6.0	Low----------	0.37		
Nankin----------	0-9	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.17	3	.5-1
	9-54	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low----------	0.24		
	54-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
FuB------------- Fuquay	0-32	2-10	1.60-1.70	>6.0	0.04-0.09	4.5-6.0	Low----------	0.10	5	.5-2
	32-41	10-35	1.40-1.60	0.6-2.0	0.12-0.15	4.5-6.0	Low----------	0.20		
	41-65	20-35	1.40-1.60	0.06-0.2	0.10-0.13	4.5-6.0	Low----------	0.20		
GoA------------- Goldsboro	0-8	2-8	1.55-1.75	6.0-20	0.06-0.11	3.5-5.5	Low----------	0.17	5	.5-2
	8-19	18-30	1.30-1.50	0.6-2.0	0.11-0.17	3.5-5.5	Low----------	0.24		
	19-65	20-34	1.30-1.40	0.6-2.0	0.11-0.20	3.5-5.5	Low----------	0.24		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
GrA, GrB Greenville	0-5	5-20	1.30-1.65	0.6-6.0	0.07-0.14	4.5-6.0	Low	0.24	5	.5-2
	5-72	35-55	1.35-1.55	0.6-2.0	0.14-0.18	4.5-6.0	Low	0.17		
KoB Kolomoki	0-13	10-14	1.35-1.45	2.0-6.0	0.06-0.09	4.5-6.5	Low	0.24	4	.5-3
	13-35	35-55	1.60-1.70	0.6-2.0	0.13-0.16	4.5-6.0	Low	0.32		
	35-48	20-35	1.50-1.60	0.6-2.0	0.10-0.13	4.5-6.0	Low	0.28		
	48-64	10-35	1.50-1.60	0.6-2.0	0.06-0.11	4.5-6.0	Low	0.24		
LbB Lucy	0-25	1-12	1.30-1.70	6.0-20	0.08-0.12	5.1-6.0	Low	0.10	5	.5-1
	25-35	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low	0.24		
	35-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	Low	0.28		
LnD*, LnE*:										
Lucy	0-25	1-12	1.30-1.70	6.0-20	0.08-0.12	5.1-6.0	Low	0.10	5	.5-1
	25-35	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low	0.24		
	35-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	Low	0.28		
Nankin	0-9	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low	0.17	3	.5-1
	9-54	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	54-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
MaA Mantachie	0-8	8-20	1.50-1.60	0.6-2.0	0.16-0.20	4.5-5.5	Low	0.28	5	1-3
	8-64	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	Low	0.28		
MgA Meggett	0-13	15-25	1.20-1.40	0.6-2.0	0.15-0.20	4.5-6.5	Low	0.28	5	2-8
	13-23	30-60	1.45-1.60	0.06-0.2	0.13-0.18	5.1-8.4	High	0.32		
	23-48	35-60	1.50-1.75	0.06-0.2	0.13-0.18	6.1-8.4	High	0.32		
	48-63	25-50	1.40-1.60	0.06-0.6	0.12-0.18	6.1-8.4	Moderate	0.28		
MuA Muckalee	0-6	5-20	1.35-1.45	0.6-2.0	0.08-0.12	5.1-7.3	Low	0.20	5	2-6
	6-72	5-20	1.35-1.50	0.6-2.0	0.08-0.12	5.6-8.4	Low	0.20		
NaB2, NaD2 Nankin	0-4	20-30	1.45-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.32	3	.5-1
	4-47	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	47-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
NcE*:										
Nankin	0-9	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low	0.17	3	.5-1
	9-54	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	54-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
Conecuh	0-5	4-14	1.40-1.65	0.6-2.0	0.06-0.11	3.6-5.5	Low	0.15	5	.5-2
	5-31	45-70	1.30-1.55	<0.06	0.08-0.19	3.6-5.5	High	0.32		
	31-65	---	---	<0.06	---	---	-------------	----		
NnE*:										
Nankin	0-9	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low	0.17	3	.5-1
	9-17	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
	17-54	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	54-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
Lucy	0-25	1-12	1.30-1.70	6.0-20	0.08-0.12	5.1-6.0	Low	0.10	5	.5-1
	25-35	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low	0.24		
	35-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	Low	0.28		
NoA, NoB Norfolk	0-10	2-8	1.55-1.70	6.0-20	0.06-0.11	3.5-6.0	Low	0.17	5	.5-2
	10-35	18-35	1.30-1.65	0.6-2.0	0.10-0.18	3.5-5.5	Low	0.24		
	35-62	20-43	1.20-1.65	0.6-2.0	0.12-0.18	3.5-5.5	Low	0.24		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
OrA, OrB------- Orangeburg	0-10	7-15	1.30-1.50	2.0-6.0	0.07-0.10	4.5-6.0	Low----------	0.20	5	.5-2
	10-20	18-35	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
	20-60	20-45	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
OuC*:										
Orangeburg------	0-10	7-15	1.30-1.50	2.0-6.0	0.07-0.10	4.5-6.0	Low----------	0.20	5	.5-2
	10-20	18-35	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
	20-60	20-45	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
Urban land------	0-6	---	---	---	---	---	-------------	----	---	---
PaA------------- Paxville	0-10	8-25	1.30-1.40	2.0-6.0	0.12-0.16	3.6-6.5	Low----------	0.20	5	2-10
	10-56	8-35	1.20-1.50	0.6-2.0	0.12-0.18	3.6-5.5	Low----------	0.15		
	56-65	2-12	1.30-1.60	6.0-20	0.05-0.08	3.6-5.5	Low----------	0.10		
Pb*------------- Pits, borrow	0-60	---	---	---	---	---	-------------	----	---	---
Pm*------------- Pits, mines	0-60	---	---	---	---	---	-------------	----	---	---
RbA, RbB-------- Red Bay	0-7	7-20	1.40-1.55	2.0-6.0	0.07-0.14	4.5-6.0	Low----------	0.20	5	<2
	7-13	10-25	1.30-1.60	0.6-6.0	0.10-0.14	4.5-6.0	Low----------	0.15		
	13-45	18-35	1.30-1.50	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.17		
	45-65	20-45	1.40-1.60	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
RvB------------- Riverview	0-6	4-18	1.30-1.60	0.6-2.0	0.12-0.18	4.5-6.5	Low----------	0.24	5	.5-2
	6-72	18-35	1.20-1.40	0.6-2.0	0.15-0.22	4.5-6.0	Low----------	0.24		
TrB, TrD-------- Troup	0-44	2-12	1.30-1.70	6.0-20	0.08-0.12	4.5-6.0	Low----------	0.10	5	<1
	44-65	15-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low----------	0.20		
TsE*:										
Troup-----------	0-44	2-12	1.30-1.70	6.0-20	0.08-0.12	4.5-6.0	Low----------	0.10	5	<1
	44-65	15-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low----------	0.20		
Nankin----------	0-9	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.17	3	.5-1
	9-54	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low----------	0.24		
	54-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
TuB2------------ Tumbleton	0-4	5-20	1.50-1.70	6.0-20	0.08-0.13	4.5-6.5	Low----------	0.20	4	.5-2
	4-10	25-45	1.40-1.65	0.6-2.0	0.07-0.14	3.6-5.5	Moderate-----	0.32		
	10-49	35-85	1.35-1.60	0.06-0.2	0.06-0.13	3.6-5.5	Moderate-----	0.32		
	49-56	30-85	1.35-1.65	0.06-0.6	0.06-0.14	3.6-5.5	Moderate-----	0.32		
	56-72	---	1.35-1.75	0.06-0.6	0.07-0.12	3.6-5.5	Low----------	0.32		
TyD*:										
Tumbleton-------	0-4	5-20	1.50-1.70	6.0-20	0.08-0.13	4.5-6.5	Low----------	0.20	4	.5-2
	4-10	25-45	1.40-1.65	0.6-2.0	0.07-0.14	3.6-5.5	Moderate-----	0.32		
	10-49	35-85	1.35-1.60	0.06-0.2	0.06-0.13	3.6-5.5	Moderate-----	0.32		
	49-56	30-85	1.35-1.65	0.06-0.6	0.06-0.14	3.6-5.5	Moderate-----	0.32		
	56-72	---	1.35-1.75	0.06-0.6	0.07-0.12	3.6-5.5	Low----------	0.32		
Fuquay----------	0-32	2-10	1.60-1.70	>6.0	0.04-0.09	4.5-6.0	Low----------	0.10	5	.5-2
	32-41	10-35	1.40-1.60	0.6-2.0	0.12-0.15	4.5-6.0	Low----------	0.20		
	41-65	20-35	1.40-1.60	0.06-0.2	0.10-0.13	4.5-6.0	Low----------	0.20		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
YMA*:										
Yonges----------	0-14	7-18	1.30-1.60	0.6-2.0	0.11-0.14	5.1-7.8	Low----------	0.20	5	1-5
	14-53	18-40	1.30-1.60	0.2-0.6	0.13-0.18	5.1-8.4	Low----------	0.17		
	53-72	10-35	1.30-1.50	0.6-2.0	0.12-0.16	6.1-8.4	Low----------	0.20		
Muckalee--------	0-6	5-20	1.35-1.45	0.6-2.0	0.08-0.12	5.1-7.3	Low----------	0.20	5	2-6
	6-72	5-20	1.35-1.50	0.6-2.0	0.08-0.12	5.6-8.4	Low----------	0.20		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--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 less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
AbB-------------- Albany	C	None--------	---	---	1.0-2.5	Perched	Dec-Mar	High-----	High.
BmA*:									
Bigbee-----------	A	Frequent----	Brief-----	Jan-Mar	3.5-6.0	Apparent	Jan-Mar	Low------	Moderate.
Muckalee---------	D	Frequent----	Brief-----	Nov-Apr	0-1.0	Apparent	Dec-Mar	High-----	Moderate.
BnB-------------- Bonifay	A	None--------	---	---	4.0-5.0	Perched	Jan-Feb	Low------	High.
BoA-------------- Bonneau	A	None--------	---	---	3.5-5.0	Perched	Dec-Mar	Low------	High.
CaA-------------- Clarendon	C	None--------	---	---	2.0-3.0	Perched	Dec-Mar	Moderate	High.
CoB2, CoD2-------- Conecuh	D	None--------	---	---	>6.0	---	---	High-----	High.
DoA, DoB---------- Dothan	B	None--------	---	---	3.0-5.0	Perched	Jan-Apr	Moderate	Moderate.
DuB*:									
Dothan-----------	B	None--------	---	---	3.0-5.0	Perched	Jan-Apr	Moderate	Moderate.
Urban land-------	---	None--------	---	---	>2.0	---	---	---	---
FaB2------------- Faceville	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
FnD2*:									
Faceville--------	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
Nankin-----------	C	None--------	---	---	>6.0	---	---	High-----	High.
FuB-------------- Fuquay	B	None--------	---	---	4.0-6.0	Perched	Jan-Mar	Low------	High.
GoA-------------- Goldsboro	B	None--------	---	---	2.0-3.0	Perched	Dec-Apr	Moderate	High.
GrA, GrB---------- Greenville	B	None--------	---	---	>6.0	---	---	Moderate	High.
KoB-------------- Kolomoki	B	Rare--------	---	---	>6.0	---	---	Moderate	Moderate.
LbB-------------- Lucy	A	None--------	---	---	>6.0	---	---	Low------	High.
LnD*, LnE*:									
Lucy-------------	A	None--------	---	---	>6.0	---	---	Low------	High.
Nankin-----------	C	None--------	---	---	>6.0	---	---	High-----	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft				
MaA-------------- Mantachie	C	Frequent----	Brief-----	Jan-Mar	1.0-1.5	Apparent	Dec-Mar	High-----	High.
MgA-------------- Meggett	D	Frequent----	Brief-----	Dec-Apr	0-1.0	Apparent	Nov-Apr	High-----	Moderate.
MuA-------------- Muckalee	D	Frequent----	Brief-----	Nov-Apr	0-1.0	Apparent	Dec-Mar	High-----	Moderate.
NaB2, NaD2-------- Nankin	C	None--------	---	---	>6.0	---	---	High-----	High.
NcE*:									
Nankin-----------	C	None--------	---	---	>6.0	---	---	High-----	High.
Conecuh----------	D	None--------	---	---	>6.0	---	---	High-----	High.
NnE*:									
Nankin-----------	C	None--------	---	---	>6.0	---	---	High-----	High.
Lucy-------------	A	None--------	---	---	>6.0	---	---	Low------	High.
NoA, NoB---------- Norfolk	B	None--------	---	---	4.0-6.0	Perched	Jan-Mar	Moderate	High.
OrA, OrB---------- Orangeburg	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
OuC*:									
Orangeburg-------	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
Urban land-------	---	None--------	---	---	>2.0	---	---	---	---
PaA-------------- Paxville	D	Rare--------	---	---	+1-1.0	Apparent	Nov-Apr	High-----	High.
Pb*-------------- Pits, borrow	---	None--------	---	---	>6.0	---	---	---	---
Pm*-------------- Pits, mines	---	None--------	---	---	>6.0	---	---	---	---
RbA, RbB---------- Red Bay	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
RvB-------------- Riverview	B	Occasional	Brief-----	Dec-Mar	3.0-5.0	Perched	Dec-Mar	Low------	Moderate.
TrB, TrD---------- Troup	A	None--------	---	---	>6.0	---	---	Low------	Moderate.
TsE*:									
Troup------------	A	None--------	---	---	>6.0	---	---	Low------	Moderate.
Nankin-----------	C	None--------	---	---	>6.0	---	---	High-----	High.
TuB2------------- Tumbleton	C	None--------	---	---	>6.0	---	---	High-----	High.
TyD*:									
Tumbleton--------	C	None--------	---	---	>6.0	---	---	High-----	High.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
TyD*:									
Fuquay-----------	B	None--------	---	---	4.0-6.0	Perched	Jan-Mar	Low------	High.
YMA*:									
Yonges-----------	D	Frequent----	Brief-----	Dec-Apr	0-1.0	Apparent	Nov-Apr	High-----	Moderate.
Muckalee---------	D	Frequent----	Brief-----	Nov-Apr	0-1.0	Apparent	Dec-Mar	High-----	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 18.--PHYSICAL ANALYSES OF SELECTED SOILS

Soil name and sample number	Depth	Horizon	Particle-size distribution (Percent less than 2.0 mm)		
			Sand (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)
	In				
Conecuh [1]:					
(S84AL-067-2)	0-6	Ap	51.8	25.0	23.2
	6-14	Bt1	6.5	25.1	68.4
	14-25	Bt2	9.6	27.8	62.6
	25-55	Bt3	19.7	29.7	50.6
	55-63	C	23.1	30.4	46.5
Dothan [2]:					
(S70AL-067-8)	0-5	Ap	71.3	14.1	14.6
	5-13	Bt1	65.4	12.0	22.6
	13-27	Bt2	55.6	11.5	32.9
	27-40	Bt3	58.8	8.4	32.8
	40-57	Btv1	60.9	10.0	29.1
	57-72	Btv2	60.8	7.7	31.5
Lucy [3]:					
(S70AL-067-2)	0-9	Ap	85.9	9.7	4.4
	9-15	E1	81.8	11.9	6.3
	15-26	E2	82.6	11.7	5.7
	26-31	BE	80.7	10.1	9.2
	31-75	Bt	64.1	13.7	22.2
Meggett [4]:					
(S82AL-067-5)	0-6	A	51.4	36.4	12.2
	6-13	E	49.0	39.2	11.8
	13-23	Btg1	38.0	27.8	34.2
	23-35	Btg2	25.8	25.8	48.4
	35-48	Btg3	27.0	28.8	44.2
	48-63	BCg	37.7	24.3	38.0
Nankin [4]:					
(S84AL-067-3)	0-9	Ap	76.5	18.5	5.0
	9-17	Bt1	42.5	18.9	38.6
	17-32	Bt2	28.7	28.9	42.4
	32-54	Bt3	26.8	29.2	44.0
	54-65	C	53.8	16.4	29.8
Orangeburg [5]:					
(S70AL-067-4)	0-8	Ap	78.1	13.7	8.2
	8-13	Bt1	67.9	13.4	18.7
	13-38	Bt2	53.8	10.6	35.6
	38-51	Bt3	58.3	7.9	33.8
	51-79	Bt4	61.3	7.2	31.5
Tumbleton [4]:					
(S86AL-067-1)	0-4	Ap	78.0	12.1	9.9
	4-10	Bt1	51.8	10.2	38.0
	10-26	Bt2	19.7	5.0	75.3
	26-37	Bt3	24.0	8.6	67.4
	37-49	Bt4	15.8	5.9	78.3
	49-56	BC	9.9	7.1	83.0
	56-72	2C	76.2	1.7	22.1

[1] This pedon is an included soil in an area of Conecuh sandy clay loam, 2 to 5 percent slopes, eroded. It is a very-fine, montmorillonitic, thermic Vertic Hapludalf. It is about 670 feet north and 1,170 feet east of the southwest corner of sec. 7, T. 7 N., R. 28 E.

[2] This pedon is in an area of Dothan fine sandy loam, 0 to 2 percent slopes. It is not the typical pedon for the map unit. It is about 2,340 feet south and 1,370 feet east of the northwest corner of sec. 3, T. 4 N., R. 27 E.

[3] This pedon is in an area of Lucy loamy sand, 0 to 5 percent slopes. It is not the typical pedon for the map unit. It is about 280 feet south and 1,000 feet west of the northeast corner of sec. 34, T. 5 N., R. 27 E.

[4] This is the typical pedon for the series in Henry County. For the description and location of the pedon, see the section "Soil Series and Their Morphology."

[5] This pedon is in an area of Orangeburg fine sandy loam, 0 to 2 percent slopes. It is not the typical pedon for the map unit. It is 650 feet north and 1,525 feet west of the southeast corner of sec. 34, T. 5 N., R. 27 E.

TABLE 19.--CHEMICAL ANALYSES OF SELECTED SOILS

Soil name and sample number	Depth	Horizon	Extractable bases Ca	Mg	K	Base saturation	Reaction	Cation-exchange capacity
	In		------Meq 100g-------			Pct	pH	----Meq 100 g----
Conecuh [1]: (S84AL-067-2)	0-6	A	0.23	3.35	0.37	16.74	4.6	23.54
	6-14	Bt1	0.20	2.89	0.32	22.11	4.7	15.41
	14-25	Bt2	0.18	3.16	0.29	23.43	4.6	15.46
	25-55	Bt3	0.15	---	---	---	5.7	---
	55-63	C	4.48	0.51	0.31	48.61	5.6	10.90
Dothan [2]: (S70AL-067-8)	0-5	Ap	0.57	1.81	0.21	56.40	5.6	4.59
	5-13	Bt1	1.04	0.45	0.10	34.30	5.3	4.63
	13-27	Bt2	1.72	0.62	0.04	42.60	5.5	5.58
	27-40	Bt3	0.64	0.24	0.01	24.10	5.4	3.69
	40-57	Btv1	0.37	0.16	0.01	14.40	5.2	3.74
	57-72	Btv2	0.37	0.21	0.00	15.60	5.2	3.70
Lucy [3]: S70AL-067-2	0-9	Ap	0.76	0.16	0.05	33.60	5.5	2.89
	9-15	E1	0.24	0.03	0.05	12.90	4.6	2.48
	15-26	E2	0.24	0.03	0.04	18.50	4.8	1.67
	26-31	BE	0.76	0.06	0.06	39.30	5.1	2.24
	31-75	Bt	0.70	0.10	0.10	20.00	4.5	4.50
Meggett [4]: (S82AL-067-5)	0-6	A	0.57	0.23	0.08	17.26	5.7	5.12
	6-13	E	0.67	0.29	0.02	24.84	5.6	3.94
	13-23	Btg1	1.83	0.89	0.05	37.37	6.4	7.41
	23-35	Btg2	1.98	1.17	0.06	33.92	6.4	9.44
	35-48	Btg3	2.71	1.62	0.06	47.76	6.7	9.19
	48-63	BCg	1.92	1.08	0.06	56.05	6.6	5.46
Nankin [4]: (S84AL-067-3)	0-9	Ap	0.28	0.10	0.02	20.54	5.3	1.91
	9-17	Bt1	1.58	0.72	0.06	37.55	5.2	6.28
	17-32	Bt2	0.55	0.65	0.04	20.07	4.9	6.21
	32-54	BC	0.28	0.31	0.04	12.43	4.4	5.02
	54-65	C	0.13	0.12	0.03	6.73	4.7	4.03
Orangeburg [5]: (S70AL-067-4)	0-8	Ap	0.76	0.15	0.11	30.50	5.2	3.34
	8-13	Bt1	0.98	0.16	0.11	24.70	4.9	4.05
	13-38	Bt2	---	---	---	---	5.3	---
	38-51	Bt3	0.60	0.13	0.09	15.30	4.6	4.91
	51-79	Bt4	0.34	0.16	0.01	12.60	4.5	4.03
Tumbleton [4]: (S86AL-067-1)	0-4	Ap	2.48	0.38	0.15	52.47	5.5	5.72
	4-10	Bt1	1.27	0.24	0.07	32.55	4.6	4.86
	10-26	Bt2	1.32	0.40	0.04	36.09	4.5	4.88
	26-37	Bt3	0.47	0.21	0.06	15.70	4.7	4.75
	37-49	Bt4	0.35	0.17	0.06	10.57	4.7	5.46
	49-56	BC	0.47	0.25	0.11	12.28	4.5	6.75
	56-72	2C	0.30	0.09	0.04	20.34	4.3	2.11

[1] This pedon is an included soil in an area of Conecuh sandy clay loam, 2 to 5 percent slopes, eroded. It is a very-fine, montmorillonitic, thermic Vertic Hapludalf. It is about 670 feet north and 1,170 feet east of the southwest corner of sec. 7, T. 7 N., R. 28 E.

[2] This pedon is in an area of Dothan fine sandy loam, 0 to 2 percent slopes. It is not the typical pedon for the map unit. It is about 2,340 feet south and 1,370 feet east of the northwest corner of sec. 3, T. 4 N., R. 27 E.

[3] This pedon is in an area of Lucy loamy sand, 0 to 5 percent slopes. It is not the typical pedon for the map unit. It is about 280 feet south and 1,000 feet west of the northeast corner of sec. 34, T. 5 N., R. 27 E.

[4] This is the typical pedon for the series in Henry County. For the description and location of the pedon, see the section "Soil Series and Their Morphology."

[5] This pedon is in an area of Orangeburg fine sandy loam, 0 to 2 percent slopes. It is not the typical pedon for the map unit. It is about 650 feet north and 1,525 feet west of the southeast corner of sec. 34, T. 5 N., R. 27 E.

TABLE 20.--ENGINEERING INDEX TEST DATA

(Dashes indicate that data were not available. LL means liquid limit; PI, plasticity index; MD, maximum dry density; OM, optimum moisture; and NP, nonplastic)

Soil name, report number, horizon, and depth in inches	Classification		Grain-size distribution										LL	PI	Moisture density	
			Percentage passing sieve--							Percentage smaller than--						
	AASHTO	Unified	2 in.	3/4 inch	3/8 inch	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm			MD	OM
													Pct		Lb/ cu ft	Pct
Conecuh*:																
(S82AL-067-7)																
Bt2----- 8 to 21	A-7-5(32)	MH	100	100	100	100	100	99	95	---	83	---	62	27	87	28
Bt3----- 21 to 34	A-7-5(29)	MH	100	100	100	100	100	99	92	---	73	---	54	21	93	23
BC------ 34 to 54	A-7-5(27)	MH	100	100	100	100	100	99	89	---	72	---	63	24	86	28
Greenville*:																
(S83AL-067-3)																
Bt1----- 5 to 21	A-6(4)	CL	100	100	100	100	100	91	54	---	47	---	34	13	106	15
Bt2----- 21 to 72	A-4(2)	SC	100	100	100	100	100	91	46	---	39	---	28	10	110	16
Troup**:																
(S83AL-067-5)																
E2------ 28 to 48	A-2(0)	SP-SM	100	100	100	100	99	54	10	---	9	---	NP	NP	118	10
Bt1----- 48 to 58	A-2(0)	SC-SM	100	100	100	100	99	60	10	---	9	---	NP	NP	117	9
Tumbleton*:																
(S83AL-067-1)																
Bt2----- 10 to 26	A-7-5(32)	CH	100	100	100	99	99	92	83	---	82	---	65	41	82	34
Bt3----- 26 to 37	A-7-5(29)	CH	100	100	100	99	99	92	83	---	79	---	70	29	83	27
Bt4----- 37 to 49	A-7-5(34)	CH	100	100	100	99	99	95	88	---	82	---	72	33	86	26
BC------ 49 to 56	A-7-5(41)	CH	100	100	100	96	95	98	94	---	87	---	78	35	85	28
Yonges*:																
(S83AL-067-4)																
Eg------ 4 to 14	A-4(0)	SM-SC	100	100	100	100	100	97	45	---	22	---	NP	NP	117	11
Btg----- 14 to 45	A-4(0)	SM-SC	100	100	100	100	100	98	47	---	26	---	NP	NP	117	12

* This is the typical pedon for the series in Henry County. For the description and location of the pedon, see the section "Soil Series and Their Morphology."

** This pedon is an included soil in an area of Troup loamy fine sand, 0 to 5 percent slopes. It is a sandy, siliceous, thermic Psammentic Paleudult. It is about 670 feet south and 670 feet west of the northeast corner of sec. 9, T. 4 N., R. 28 E.

TABLE 21.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, thermic Grossarenic Paleudults
Bigbee	Thermic, coated Typic Quartzipsamments
Bonifay	Loamy, siliceous, thermic Grossarenic Plinthic Paleudults
Bonneau	Loamy, siliceous, thermic Arenic Paleudults
Clarendon	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Conecuh	Clayey, montmorillonitic, thermic Aquic Hapludults
Dothan	Fine-loamy, siliceous, thermic Plinthic Kandiudults
Faceville	Clayey, kaolinitic, thermic Typic Kandiudults
Fuquay	Loamy, siliceous, thermic Arenic Plinthic Kandiudults
Goldsboro	Fine-loamy, siliceous, thermic Aquic Paleudults
Greenville	Clayey, kaolinitic, thermic Rhodic Kandiudults
Kolomoki	Clayey, kaolinitic, thermic Typic Hapludults
Lucy	Loamy, siliceous, thermic Arenic Kandiudults
Mantachie	Fine-loamy, siliceous, acid, thermic Aeric Fluvaquents
Meggett	Fine, mixed, thermic Typic Albaqualfs
Muckalee	Coarse-loamy, siliceous, nonacid, thermic Typic Fluvaquents
Nankin	Clayey, kaolinitic, thermic Typic Kanhapludults
Norfolk	Fine-loamy, siliceous, thermic Typic Kandiudults
Orangeburg	Fine-loamy, siliceous, thermic Typic Kandiudults
Paxville	Fine-loamy, siliceous, thermic Typic Umbraquults
Red Bay	Fine-loamy, siliceous, thermic Rhodic Kandiudults
Riverview	Fine-loamy, mixed, thermic Fluventic Dystrochrepts
Troup	Loamy, siliceous, thermic Grossarenic Kandiudults
Tumbleton	Clayey, kaolinitic, thermic Typic Kanhapludults
Yonges	Fine-loamy, mixed, thermic Typic Endoaqualfs

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