United States Department of Agriculture

NRCS

Natural Resources Conservation Service

In cooperation with the Mississippi Agricultural and Forestry Experiment Station, the Leflore County Soil and Water Conservation District, and the Leflore County Board of Supervisors

Soil Survey of Leflore County, Mississippi

How To Use This Soil Survey

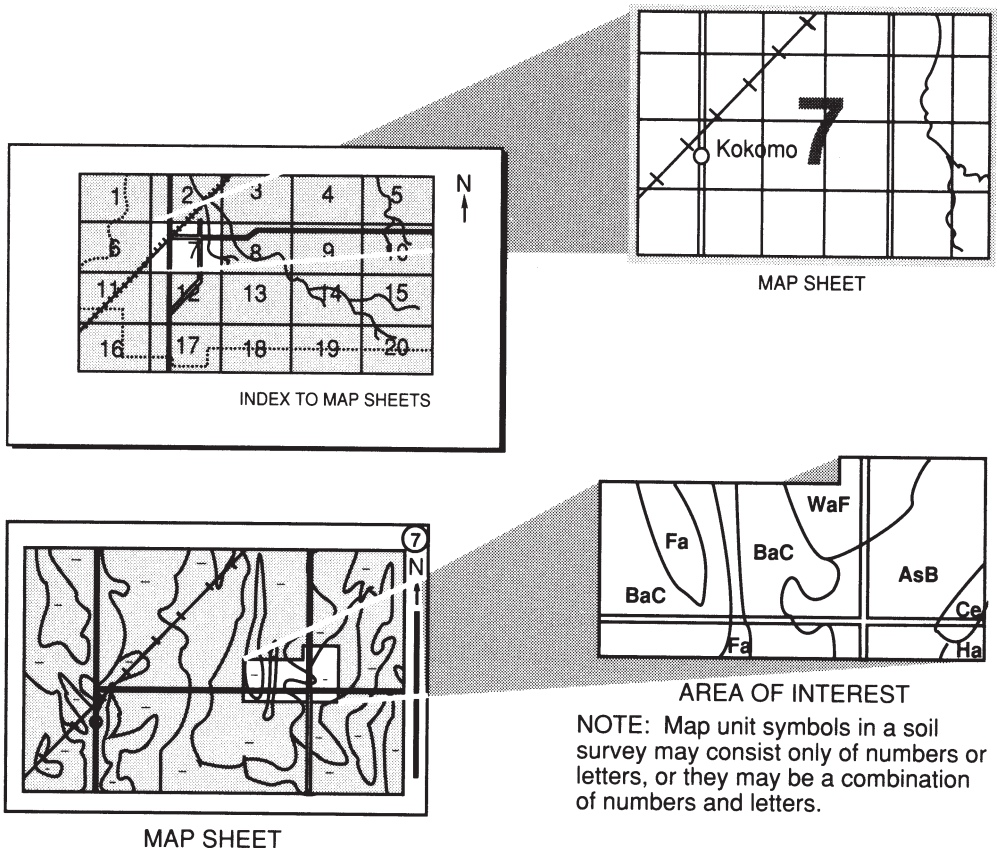
Detailed Soil Maps

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

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

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

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



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.

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 1992. Soil names and descriptions were approved in 1995. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This soil survey was made cooperatively by the Natural Resources Conservation Service and the Mississippi Agricultural and Forestry Experiment Station. It is part of the technical assistance furnished to the Leflore County Soil and Water Conservation District. The Leflore County Board of Supervisors provided financial assistance for the survey.

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.

Cover: An excellent crop of cotton that is ready to be harvested in an area of the Dubbs-Dundee complex, 0 to 3 percent slopes. The pivot irrigation system provides water as needed throughout the growing season.

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

Contents

Issued November 2006

Foreword

This soil survey contains information that can be used in land-planning programs in Leflore 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.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

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

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. 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.

Homer L. Wilkes
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Leflore County, Mississippi

Fieldwork by Mac H. Robards, Robert W. Wimbish, Alan C. Peer,
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Natural Resources Conservation Service

United States Department of Agriculture,
Natural Resources Conservation Service,
in cooperation with
the Mississippi Agricultural and Forestry Experiment Station,
the Leflore County Soil and Water Conservation District, and
the Leflore County Board of Supervisors

Leflore County is in the western part of Mississippi (fig. 1). It is generally rectangular and has an area of about 588 square miles, or 388,200 acres. Greenwood, the county seat, has a population of 18,906. It is in the eastern part of the county. In 1994, the population of Leflore County was 37,341 (MASS, 1988). Agriculture, commerce, and industry are the primary enterprises.

Leflore County lies wholly within the Mississippi River Alluvial Valley, which is generally referred to as the Mississippi Delta. The county slopes mainly to the southwest and west. The Yazoo River, formed at the confluence of the Tallahatchie and Yalobusha Rivers, and the Quiver River are on the east side of the county. Drainage over most of the county has been altered by the construction of ditches, canals, and levees.

Leflore County is in the Southern Mississippi River Valley Alluvium major land resource area. About 52 percent of the land area of the county is in level and nearly level backswamps that have artificial drainage systems. About 35 percent of the land area is in the meander belt associated with the Yazoo River and its tributaries. About 12 percent of the land area is part of an alluvial apron that extends eastward to the base of the valley wall.

Agriculture is a major economic enterprise in the county. The main crops include soybeans, cotton, and rice. Catfish, hardwood timber, and beef cattle are of minor importance. Greenwood is an important agricultural marketing center. Processing and storage of agricultural products is an important industry. Other important, nonagricultural enterprises include furniture manufacturing and other industries. Leflore County has an abundance and variety of wildlife, including white-tailed deer, wild turkey, and migrating waterfowl.

Shallow to deep wells provide water for catfish ponds, irrigation, home use, and small industry. Water for irrigation is also provided by streams.

Soil scientists have identified about 14 kinds of soils in Leflore County. The soils vary widely in texture, natural drainage, and other characteristics.

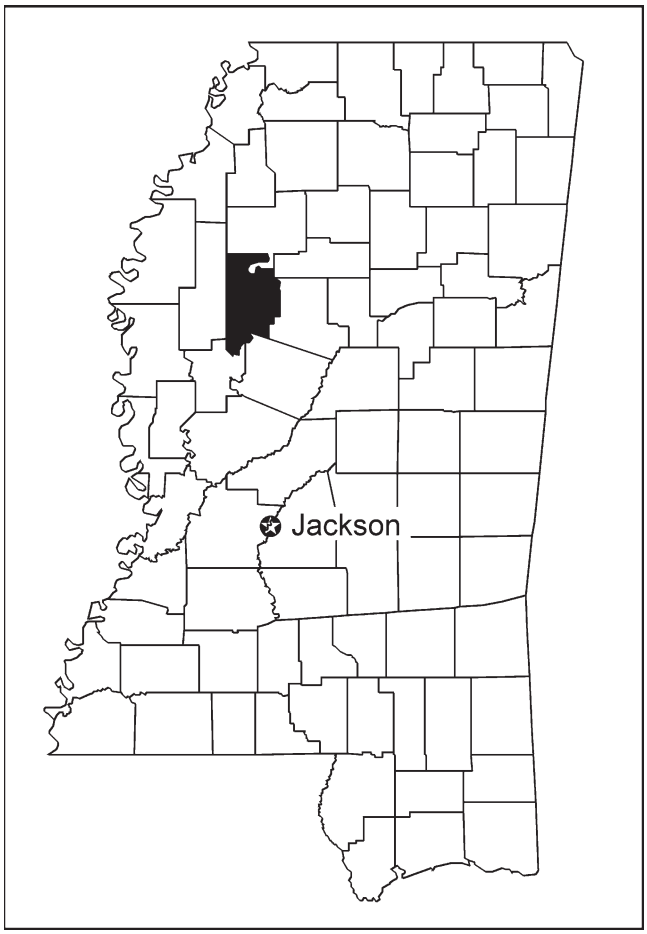

Figure 1.—Location of Leflore County in Mississippi.

This survey supersedes the Soil Survey of Leflore County published in 1959 (USDA, 1959). This survey updates the earlier survey. Descriptions, names, and delineations of soils in this soil survey do not fully agree with those on soil maps for adjacent counties. Differences are the result of better knowledge of soils, modification of series concepts, changes to intensity of mapping, and variations in the extent of soils between the survey areas.

General Nature of the County

This section provides general information on the climate, history and development, and agriculture of Leflore County.

Climate

Prepared using data recorded at the weather station at Greenwood, Mississippi.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Greenwood in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 48 degrees F and the average daily minimum

temperature is 38 degrees. The lowest temperature on record at Greenwood is -2 degrees. In summer, the average temperature is 79 degrees. The highest recorded temperature at Greenwood is 105 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (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, 25 inches, or 46 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 11 inches.

History and Development

The area that is now Leflore County was first inhabited by people about 12,000 years ago (Saucier, 1994). Early inhabitants obtained food primarily by hunting and gathering. Villages were near streams and, in some locations, can be identified by mounds and kitchen middens.

The land that comprises Leflore County was ceded to the United States on September 27, 1830, by the Choctaw Indians in the Treaty of Dancing Rabbit Creek. Leflore County was named for Greenwood Leflore, the Chief of the Choctaw Indians who signed the treaty. The earliest settlements were built around riverboat landings. For example, the current town of Sidon grew up around Marion Landing and the current city of Greenwood grew up around Williams Landing. Leflore County was one of the last sections of Mississippi to be settled because of the distance from the Mississippi River to the county and because overland travel was virtually impossible (Halsell, 1947). Settlement began along the natural levees of the larger streams and moved into the backswamps as drainage and land clearing progressed.

The county was organized by the State legislature on March 15, 1871, from portions of Carroll, Sunflower, and Tallahatchie Counties. Leflore County is bordered on the north by Tallahatchie County, on the east by Grenada and Carroll Counties, on the southeast by Holmes County, on the southwest by Humphreys County, and on the west by Humphreys and Sunflower Counties.

Agriculture

The most extensive land use in Leflore County is agriculture. As of 1982, about 79 percent of the county, or 305,200 acres, had been converted from woodland to agricultural land. In 1985, the average size of a farm in the county was 1,036 acres. The main agricultural enterprise in Leflore County is the growing of field crops, such as soybeans, cotton, grain sorghum, and rice. From 1985 through 1987, the average acreages planted to the leading crops were soybeans—108,666 acres; cotton—78,400 acres; grain sorghum—13,000 acres; and rice—13,500 acres (MASS, 1988).

During the 1950s, the practice of land leveling was introduced to improve field drainage. Later, it was used to improve the distribution of irrigation water. This management practice involves cutting the highest points in the field and filling in the lower portions. Flood and furrow irrigation practices have been used widely since the 1960s. The use of center-pivot sprinkler systems has been increasing since their introduction in the 1970s.

Commercial production of catfish has been important since the latter part of the 1980s. Approximately 10,000 acres of cropland has been converted to catfish ponds as of 1988.

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.

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.

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.

Frequency and Duration of Flooding

Several factors influence the frequency and duration of flooding. Soils are mapped with due consideration to the frequency and duration of flooding to which they are subject throughout the survey area. Generally, the frequency, duration, and depth of flooding are less on the upper reaches of a watershed and more on the lower reaches. Water discharge in river systems varies over both time and space at a variety of scales. Natural factors, such as intensity and frequency of rainfall and location in the county, influence flooding in a particular area. Artificial alterations to the landscape, such as levees and drainage ditches, further influence flooding in a particular area. Thus, the frequency and duration of flooding to which a map unit is subject may differ somewhat across the survey area. Also, as the landscape is changed, soils that would not normally have been prone to flooding can become prone. All of the soils in the delta have formed from deposits left by water. Before the construction of massive flood-prevention structures, most of the soils would be

flooded to some degree in most years. Because of the massive changes and local conditions, predictions regarding flooding are difficult to make at best. By assigning flooding frequencies and durations to the soils in the survey, an attempt is made to describe the more flood-prone soils and to determine the landforms these flood-prone soils are associated with. This is not an attempt to quantitatively predict flooding in the survey area, and the soils maps do not replace maps that specifically detail flooding.

Detailed Soil Map Units

The map units on the detailed soil maps 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 with 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, Alligator clay, depressional, is a phase of the Alligator 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. Tensas-Alligator complex, 0 to 3 percent slopes, occasionally flooded, 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. Arkabutla and Falaya soils, 0 to 5 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. The Pits component of the map unit Pits-Udorthents complex is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables 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.

1—Collins silt loam, 0 to 2 percent slopes

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Alluvial aprons
Slope: 0 to 2 percent
Shape of areas: Irregular
Size of areas: 10 to 300 acres

Composition

Collins and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

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

Substratum:
7 to 22 inches—mottled yellowish brown, dark yellowish brown, and light brownish gray silt loam iron depletions
22 to 33 inches—yellowish brown silt that has dark yellowish brown and light brownish gray iron depletions
33 to 60 inches—brown silt that has dark yellowish brown and light brownish gray iron depletions
60 to 70 inches—olive gray silty clay loam that has yellowish brown iron accumulations

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Very high or high
Seasonal high water table: At a depth of 2 to 3 feet in winter and spring
Shrink-swell potential: Low
Flooding: Rare where the soil is protected by permanent flood-control structures. Brief local flooding can occur during the growing season in some areas during unusually long periods of high-intensity rainfall.
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Low
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately alkaline, except where lime has been applied, in the surface layer; very strongly acid to slightly alkaline in the substratum
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Collins soils that have clayey textures below a depth of 40 inches

Similar soils
- Arkabutla and Falaya soils, which are not as well drained as the Collins soil and are in slightly lower positions near active creeks
- Oaklimeter soils, which have the same internal natural drainage as the Collins soil and occupy the same landscape positions

Land Use

Dominant uses: Cultivated row crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Seasonal wetness
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Overgrazing when the soil is too wet

Management measures:
- Restricting grazing during wet periods and preventing overgrazing minimize or prevent soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: High
Management concerns:
- Seasonal wetness
- Seedling mortality
- Plant competition
- Equipment use—planting equipment and harvesting equipment can severely affect the surface layer when the soil is wet, cause rutting and compaction when the soil is moist, and cause displacement of the surface layer when the soil is dry.
- Puddling during wet periods can make unsurfaced roads and skid trails slick and impassable.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, reduce the seedling mortality rate, the plant mortality rate, and the extent of soil compaction.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Seasonal wetness

Management measures:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves system performance.

Local roads and streets
Suitability: Moderately suited
Management concerns:
- Seasonal wetness
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 1
Forestland ordination symbol: 13W

2—Collins silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Broad, slightly higher areas on alluvial aprons below the bluff-line hills
Slope: 0 to 2 percent
Shape of areas: Broad and somewhat irregular
Size of areas: 20 to 300 acres

Composition

Collins and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

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

Substratum:
7 to 22 inches—mottled yellowish brown, dark yellowish brown, and light brownish gray silt loam
22 to 33 inches—yellowish brown silt that has dark yellowish brown and light brownish gray mottles
33 to 60 inches—brown silt that has dark yellowish brown and light brownish gray mottles
60 to 70 inches—olive gray silty clay loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Very high or high
Seasonal high water table: At a depth of 2 to 3 feet in winter and spring
Shrink-swell potential: Low
Flooding: Occasional; occurs mainly in winter and spring, usually at least once in 10 years, and may be from a few inches to more than 3 feet in depth
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Low
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately alkaline, except where lime has been applied, in the surface layer
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- None

Similar soils
- Arkabutla and Falaya soils, which are not as well drained as the Collins soil and are in slightly lower positions near active creeks

Land Use

Dominant uses: Cultivated row crops
Other uses: Pasture and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, grain sorghum, soybeans, and wheat
Management concerns:
- Seasonal wetness
- Occasional flooding
- If the soil is tilled when wet, a plow pan can develop. The pan restricts root growth and water movement.

Management measures:
- Proper row arrangement facilitates removal of surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.
- A drainage system that includes proper row direction, temporary field drains, and adequate outlets helps to remove excess surface water after rainfall.

Pasture and hayland
Suitability: Well suited
Adapted plants: Improved bermudagrass and tall fescue
Management concerns:
- Overgrazing when the soil is too wet
- Flooding

Management measures:
- Restricting grazing when the soil is too wet minimizes compaction.
- Using a grazing management system, properly applying fertilizer, and installing a drainage system that removes excess surface water increase forage yields, improve quality, and protect the soil.
- Cool-season legumes, such as lespedeza and white clover, produce winter forage and add nitrogen to the soil.
- Intensive management practices are needed for high production.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: High
Management concerns:
- Seasonal wetness
- Seedling mortality
- Plant competition
- Equipment use—planting equipment and harvesting equipment cause rutting and compaction and can severely affect the surface layer when the soil is wet.
- Surface puddling during wet periods can make unsurfaced roads and skid trails slippery and nearly impassable.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, reduce the seedling mortality rate, the plant mortality rate, and the extent of soil compaction.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited

Management concerns:
- Seasonal wetness
- Flooding

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Wetness
- Flooding

Management measures:
- This map unit is severely limited as a site for septic tank absorption fields; the local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Seasonal wetness
- Flooding

Management measures:
- Constructing roads on raised, well-compacted fill material reduces the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 4A

3—Alfic Udarents, loamy

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander belts
Landform position: Swales or low areas that have been filled by land leveling
Slope: 0 to 1 percent; typically, less than 0.5 percent
Shape of areas: Narrow and elongated
Size of areas: 10 to 40 acres

Composition

Alfic Udarents and similar soils: 100 percent

Typical Profile

Alfic Udarents, loamy, consist of several soils and substratum materials that are mixed and deposited in layers ranging from 24 to over 60 inches in thickness. Alfic Udarents, loamy, are not uniform and do not occur in a regular pattern. They have been shaped and smoothed by heavy machinery. Deposits mostly originated from

Dubbs, Tutwiler, and Dundee soils. Alligator and Tensas soils are in depressional areas and underlie the Alfic Udarents. Throughout the profile are strata of clay loam, loam, and clay and pockets of very fine sandy loam. Fragments of wood, glass, and plastic are also present in a few places.

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained to somewhat poorly drained
Permeability: Moderate
Available water capacity: Variable
Seasonal high water table: Perched, at a depth of 24 to 60 inches from December to April in most years
Shrink-swell potential: Moderate
Flooding: Rare
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Low
Tilth: Fair. The surface layer is firm and tends to crust and pack after heavy rains.
Natural fertility: Low to moderately high
Reaction: Variable
Parent material: Loamy sediments from Dubbs, Dundee, and Tutwiler soils

Minor Components

Dissimilar soils
- None

Similar soils
- Deposits that mostly consist of materials from Dubbs, Tutwiler, and Dundee soils
- Alligator and Tensas soils that are in depressional areas and underlie the Alfic Udarents

Land Use

Dominant uses: Cultivated row crops
Other uses: Pasture and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, and wheat
Management concerns:
- Restricted permeability
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Seasonal wetness in the somewhat poorly drained subsoil of the Dundee soil material

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.
- Cool-season legumes, such as lespedeza and white clover, produce winter forage and add nitrogen to the soil; however, a higher degree of management is needed for best results.

Forestland
Suitability: Well suited
Potential for commercial species: Good
Productivity class: High
Management concerns:
- None

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife, forestland wildlife, and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Variable

Septic tank absorption fields
Suitability: Variable

Local roads and streets
Suitability: Variable

Lawns and landscaping
Suitability: Variable

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 9A

4—Alligator clay, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Backswamp areas
Slope: 0 to 1 percent
Shape of areas: Broad; level to slightly concave
Size of areas: 10 to 500 acres

Composition

Alligator and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 29 inches—light brownish gray clay that has yellowish brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has strong brown and dark yellowish brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—grayish brown clay loam that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow. When dry, this soil develops large cracks allowing water to rapidly enter. As the soil becomes moist, the cracks seal and restrict water movement through the soil, resulting in ponding.
Available water capacity: High or moderate
Seasonal high water table: Perched, at a depth of 0.5 to 2 feet in wet periods from December through April
Shrink-swell potential: Very high
Flooding: Rare where the soil is protected by permanent flood-control structures. Flooding can occur during the growing season in some areas during unusually long periods of high-intensity rainfall.
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Poor. The surface layer is firm, is very sticky when wet, is hard when dry, and can be tilled only within a narrow range of moisture content.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid, except where lime has been applied, in the surface layer, subsurface layer, and the upper part of the subsoil; very strongly acid to moderately alkaline in the subsoil below a depth of 40 inches; neutral to moderately alkaline in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- Small areas of Dowling soils in sloughs that are ponded until late into the growing season
- Elongated areas of Alligator soils that have slopes of 6 to 12 percent and border sloughs

Similar soils
- Soils that are in depressional areas, are very poorly drained, and are ponded most of the year
- Soils that are in depressional areas, are better drained than the Alligator soil, are in slightly higher positions, and have a loamy subsoil at a depth of 28 to 48 inches

- Soils that have been altered by land leveling and have variable surface thickness because of cutting and filling. In a few areas, all of the surface layer has been removed.

Land Use

Dominant uses: Cultivated row crops
Other uses: Forestland and catfish ponds

Cropland
Suitability: Well suited
Commonly grown crops: Rice (fig. 2) and soybeans
Management concerns:
- Clayey texture
- Wetness
- Cultivation of this sticky, plastic, clayey soil commonly results in a mechanically compacted zone, or plow pan. The pan restricts root generation and development and the downward movement of water and air through the soil.

Management measures:
- Soil structure and tilth can be maintained or improved by incorporating crop residue into the surface layer and tilling when the soil has the correct moisture content.
- Rice production is not adversely affected by wetness or the formation of a plow pan because rice is flooded during much of the crop season and the plow pan helps to support the weight of heavy harvesting equipment in wet conditions.
- Plow pans are detrimental to dry-land crop production because roots cannot penetrate the pan to acquire moisture and nutrients. Deep chisel-plowing can break up the pan and is common during the drier fall season. The chiseling, however, reduces the bearing capacity of the soil and the ability of the soil to support the

Figure 2.—Rice in an area of Alligator clay, 0 to 1 percent slopes.

weight of tillage equipment after heavy rains. During the following growing season, planting and other normal operations may be delayed or impossible.
- A drainage system that includes proper row direction, temporary field drains, and adequate outlets helps to remove excess surface water after rainfall, thereby reducing crop damage due to wetness and allowing tillage and harvesting to be done in a timely manner.
- A good fertility program, including liming, helps to sustain yields.
- In some areas, land leveling can reduce the hazard of erosion and the runoff rate, improve drainage, and result in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Improved bermudagrass and tall fescue
Management concerns:
- Excessive wetness
- The clayey surface layer

Management measures:
- Restricting grazing when the soil is wet minimizes compaction.
- A drainage system that removes excess surface water increases forage yields, improves quality, and protects the soil.
- Proper stocking rates, controlled grazing, and weed control help to keep the pasture in good condition.
- This soil is only suited to plants that are tolerant of seasonal wetness.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Wetness
- Equipment use
- Plant competition
- Seed mortality
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Wetness
- Very high shrink-swell potential
- Flooding

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Wetness
- Slow percolation

Management measures:
- This map unit is severely limited as a site for septic tank absorption fields; the local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Wetness
- Very high shrink-swell potential
- Low strength

Management measures:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.

Lawns and landscaping
Suitability: Poorly suited
Management concerns:
- Wetness
- Too clayey

Management measures:
- Surface drainage may be needed in some areas.

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 6W

5—Alligator clay, 1 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Backswamp areas, brakes, sloughs, depressions, and lower positions on natural levees
Slope: 1 to 3 percent
Shape of areas: Broad
Size of areas: 10 to 50 acres

Composition

Alligator and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 29 inches—light brownish gray clay that has yellowish brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray, yellowish brown, and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has strong brown and dark yellowish brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—grayish brown clay loam that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow. When dry, this soil develops large cracks allowing water to rapidly enter. As the soil becomes moist, the cracks seal and water movement through the soil is impeded.
Available water capacity: High or moderate
Seasonal high water table: Perched, at a depth of 0.5 to 2 feet in wet periods from December through April
Shrink-swell potential: Very high
Flooding: Rare where the soil is protected by permanent flood-control structures. Flooding can occur during the growing season in some areas during unusually long periods of high-intensity rainfall.
Hazard of water erosion: Moderate
Content of organic matter in the surface layer: Moderate
Tilth: Poor. The surface layer is firm, is very sticky when wet, is hard when dry, and can be tilled only within a narrow range of moisture content.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid, except where lime has been applied, in the surface layer, subsurface layer, and the upper part of the subsoil; very strongly acid to moderately alkaline in the subsoil below a depth of 40 inches; neutral to moderately alkaline in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- Dowling soils, which are better drained than the Alligator soil and have a loamy subsoil at a depth of about 2 to 4 feet
- Narrow, elongated areas of Alligator soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils
- Soils that are slightly acid or neutral in the upper part of the subsoil

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Rice and soybeans
Management concerns:
- Erosion resulting from the slope
- This soil is sticky when wet, hard when dry, and can become cloddy when plowed.

- Cultivation of this sticky, plastic, clayey soil commonly results in a mechanically compacted zone, or plow pan. The pan restricts the downward movement of water and air through the soil.

Management measures:

- Soil structure and tilth can be maintained or improved by incorporating crop residue into the surface layer and tilling when the soil has the correct moisture content.
- Proper row arrangement, conservation tillage, and surface field ditches help to control erosion and remove excess surface water.
- Plow pans are detrimental to crop production because plant roots cannot penetrate the pan to acquire moisture and nutrients. If this soil is subsoiled in fall to break up the pan, the soil may not be able to support the weight of equipment after heavy rains in the following growing season. During the following growing season, planting and other normal operations may be delayed or impossible.
- Liming should be considered for those areas where the soil pH is below 5.0.
- A good fertility program is needed to ensure consistently high production.

Pasture and hayland

Suitability: Well suited

Adapted plants: Common bermudagrass, improved bermudagrass, and tall fescue

Management concerns:

- Wetness limits the use of equipment and affects grazing in parts of most years.

Management measures:

- Restricting grazing when the soil is wet minimizes compaction.
- Using a grazing management system, properly applying fertilizer, and installing a drainage system that removes excess surface water increase forage yields, improve quality, and protect the soil.
- Cool-season legumes produce winter forage and add nitrogen to the soil.

Forestland

Suitability: Well suited

Potential for commercial species: Good for hardwoods

Productivity class: Fair

Management concerns:

- Wetness
- Equipment use
- Seedling mortality
- Plant competition

Management measures:

- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat

Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife and wetland wildlife

Management concerns:

- None

Management measures:

- Species to be planted for habitat should be carefully selected.

Dwellings without basements

Suitability: Poorly suited

Management concerns:

- Flooding

- Wetness
- Very high shrink-swell potential

Management measures:

- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns:

- Wetness
- Slow percolation

Management measures:

- This map unit is severely limited as a site for septic tank absorption fields; the local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns:

- Wetness
- Very high shrink-swell potential
- Low strength

Management measures:

- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.

Lawns and landscaping

Suitability: Poorly suited
Management concerns:

- Wetness
- Too clayey

Management measures:

- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 6W

6—Alligator clay, depressional

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Brakes, sloughs, and backswamp areas
Slope: 0 to 1 percent
Shape of areas: Narrow to broad, elongated depressions
Size of areas: 10 to 100 acres

Composition

Alligator and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 29 inches—light brownish gray clay that has yellowish brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has strong brown and dark yellowish brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—grayish brown clay loam that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow
Available water capacity: High or moderate
Seasonal high water table: Ponded to a depth of 1 to 3 feet, typically for 1 or 2 days but may be as much as several weeks, from December through April in areas that have not been drained
Shrink-swell potential: Very high
Flooding: Frequent
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Poor. The surface layer is firm, is very sticky when wet, is hard when dry, and can be tilled only within a narrow range of moisture content.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid, except where lime has been applied, in the surface layer, subsurface layer, and the upper part of the subsoil; very strongly acid to moderately alkaline below a depth of 40 inches
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- Soils that have less than 24 inches of recent, loamy sediments deposited on top of a clayey surface

Similar soils
- Soils that are in lower landscape positions than those of the Alligator soil and are subject to ponding of longer duration

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland
Suitability: Not suited
Commonly grown crops: None
Management concerns:
- Wetness
- Ponding
- Flooding

Management measures:
- This map unit is severely limited for crop production; a site that has better suited soils should be selected.

Pasture and hayland
Suitability: Well suited to pasture; poorly suited to hayland
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Wetness
- Ponding
- Flooding

Management measures:
- A drainage system that removes excess surface water is needed for forage production.
- Restricting grazing when the soil is wet minimizes compaction.
- Using a grazing management system and properly applying fertilizer increase yields, improve quality, and maintain good soil conditions.

Forestland
Suitability: Well suited, but limited to water-tolerant trees
Potential for commercial species: Good for hardwoods
Productivity class: Fair
Management concerns:
- Wetness
- Equipment use
- Seedling mortality
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Wetness
- Ponding
- Flooding
- Very high shrink-swell potential

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Slow percolation

- Ponding
- Flooding
- Wetness

Management measures:

- The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Not suited

Management concerns:

- Very high shrink-swell potential
- Ponding
- Flooding
- Low strength
- Wetness

Management measures:

- This map unit is severely limited as a site for local roads and streets; a site that has better suited soils should be selected.

Lawns and landscaping

Suitability: Poorly suited

Management concerns:

- Wetness
- Flooding
- Clayey surface

Management measures:

- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 5w
Forestland ordination symbol: 4W

7—Alligator, Tensas, and Dowling soils, frequently flooded

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains and meander curves of active and ancient streams
Landform position: Abandoned channels, backswamp areas, and lower positions on natural levees
Shape of areas: Alligator—broad, level flats; Tensas—sides and crests of low, elongated ridges; Dowling—elongated depressions
Size of areas: 100 to 700 acres

Composition

Alligator and similar soils: 50 percent
Tensas and similar soils: 20 percent
Dowling and similar soils: 20 percent
Dissimilar soils: 10 percent

Typical Profile

Alligator

Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 29 inches—light brownish gray clay that has yellowish brown mottles
19 to 29 inches—light brownish gray clay that has yellowish brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has strong brown and dark yellowish brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—grayish brown clay loam that has yellowish brown and yellowish red mottles

Tensas
Surface layer:
0 to 5 inches—dark grayish brown silty clay loam

Subsoil:
5 to 26 inches—grayish brown clay that has strong brown mottles
26 to 32 inches—grayish brown clay loam that has yellowish brown mottles
32 to 40 inches—grayish brown loam that has yellowish brown mottles

Substratum:
40 to 62 inches—grayish brown loam that has yellowish brown mottles

Dowling
Surface layer:
0 to 6 inches—dark gray muck

Subsoil:
6 to 28 inches—gray clay that has strong brown mottles
28 to 42 inches—greenish gray clay
42 to 50 inches—dark greenish gray clay that has olive mottles
50 to 58 inches—greenish gray clay that has light olive brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Alligator—poorly drained; Tensas—somewhat poorly drained; Dowling—very poorly drained
Permeability: Very slow
Available water capacity: Alligator and Dowling—high; Tensas—high or very high
Seasonal high water table: Alligator—ponded to a depth of 1 to 3 feet, typically for 1 or 2 days but may be as much as several weeks, from December through April in areas that have not been drained; Tensas—at a depth of 1 to 3 feet from December through April in most years; Dowling—ponded to a depth of 1 to 1.5 feet, typically for a few days but may be to as much as several weeks, in December through April
Shrink-swell potential: Alligator and Tensas—very high; Dowling—very high, but the soil is seldom dry enough to develop cracks.
Flooding: Frequent
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Alligator and Tensas—moderate; Dowling—high
Tilth: Alligator—poor; the surface layer is firm, is very sticky when wet, is hard when dry, and can be tilled only within a narrow range of moisture content; Tensas—poor; the surface layer is firm, can be tilled only within a fairly narrow range of

moisture content, and tends to crust and pack after heavy rains; Dowling—poor; the soil is saturated or covered with water for most of the year and cannot be cultivated without considerable drainage and significant flood-prevention measures.

Natural fertility: Moderate

Reaction: Alligator—very strongly acid or strongly acid, except where lime has been applied, in the surface and subsurface layers and the upper part of the subsoil and very strongly acid to moderately alkaline below a depth of 40 inches; Tensas—very strongly acid or strongly acid, except where lime has been applied; Dowling—slightly acid to moderately alkaline

Parent material: Alligator and Dowling—clayey slackwater sediments; Tensas—loamy sediments and clayey sediments

Minor Components

Dissimilar soils

- Alligator and Tensas soils that have slopes of 6 to 12 percent
- Elongated areas bordering sloughs and abandoned channels
- Areas that have less than 24 inches of loamy sediments deposited on top of clay

Similar soils

- Soils in slightly lower areas than the major soils; in abandoned stream channels

Land Use

Dominant uses: Forestland and wildlife habitat

Cropland

Suitability: Poorly suited

Commonly grown crops: Rice and soybeans

Management concerns:

- Wetness
- Flooding

Management measures:

- None

Pasture and hayland

Suitability: Poorly suited

Adapted plants: Common bermudagrass and tall fescue

Management concerns:

- Wetness
- Ponding

Management measures:

- Restricting grazing when the soils are too wet and preventing overgrazing minimize or prevent soil compaction, help to maintain productivity, and help to prevent the formation of a rough soil surface.

Forestland

Suitability: Moderately suited

Potential for commercial species: Fair for hardwoods

Productivity class: Good

Management concerns:

- Equipment use
- Plant competition
- Seedling mortality is significant because of the flooding and standing water on the surface.
- Trees are occasionally subject to wind throw.
- Conventional forestland management methods are not applicable in areas of the Dowling soil because of surface water (fig. 3).

Figure 3.—Ponded forestland in an area of Alligator, Tensas, and Dowling soils, frequently flooded.

Management measures:
- Conventional equipment can be used only during drier periods of seasons that have well-below-average rainfall.
- Water-tolerant trees, such as bald cypress and water tupelo, can be grown.

Wildlife habitat
Potential to support habitat for wildlife: Alligator—fair for openland wildlife and forestland wildlife, good for wetland wildlife; Tensas—fair for openland wildlife, good for forestland wildlife and wetland wildlife; Dowling—very poor for openland wildlife, poor for forestland wildlife, good for wetland wildlife
Management concerns:
- None

Management measures:
- The ponding should be considered when wildlife habitat management is planned.
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Flooding
- Wetness
- Shrink-swell potential

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited

Management concerns:
- Wetness
- Flooding
- Ponding
- Slow percolation

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Not suited
Management concerns:
- Very high shrink-swell potential
- Low strength
- Flooding
- Ponding

Management measures:
- A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Poorly suited
Management concerns:
- Flooding
- Ponding
- Wetness
- Too clayey

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: Alligator and Tensas—5w; Dowling—7w
Forestland ordination symbol: Alligator—4W; Tensas—3W; Dowling—6W

8—Arkabutla silty clay loam, 0 to 2 percent slopes

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Meanders of active streams and lower positions on alluvial aprons
Slope: 0 to 2 percent
Shape of areas: Elongated and irregular
Size of areas: 10 to 100 acres

Composition

Arkabutla and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silty clay loam

Subsoil:
7 to 15 inches—yellowish brown silty clay loam that has strong brown and light brownish gray mottles

15 to 23 inches—grayish brown silty clay loam that has yellowish brown and strong brown mottles
23 to 54 inches—grayish brown silty clay loam that has strong brown mottles
54 to 62 inches—grayish brown loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High or very high
Seasonal high water table: At a depth of 1 to 2 feet from January through April
Shrink-swell potential: Low
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Fair. The surface layer is friable and easily worked during the drier seasons but tends to crust after hard rains.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid in the surface layer and the upper part of the subsoil; moderately alkaline in the subsoil below a depth of 40 inches
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Collins soils, which are in landscape positions similar to those of the Arkabutla soil but have coarser textures and are better drained

Similar soils
- Soils that are better drained than the Arkabutla soil, are not as acid, and are in slightly higher positions
- Soils that are in landscape positions similar to those of the Arkabutla soil but are not as heavy

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Seasonal wetness
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Proper row arrangement helps to remove surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and tall fescue

Management concerns:
- Seasonal wetness

Management measures:
- Restricting grazing during wet seasons and preventing overgrazing minimize soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland

Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat

Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; fair for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements

Suitability: Poorly suited
Management concerns:
- Wetness
- Flooding

Management measures:
- Constructing on the highest part of the landscape and installing an artificial drainage system reduce the risk of damage from the wetness.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns:
- Slow percolation
- Wetness

Management measures:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves system performance.

Local roads and streets

Suitability: Moderately suited
Management concerns:
- Flooding
- Wetness
- Low strength

Management measures:
- Constructing roads on raised, well-compacted fill material that has high bearing strength helps to overcome the wetness.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
• Wetness
Management measures:
• Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 9W

9—Arkabutla silty clay loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Bordering meander curves of active streams and on alluvial aprons
Slope: 0 to 2 percent
Shape of areas: Elongated and irregular
Size of areas: 10 to 50 acres

Composition

Arkabutla and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silty clay loam

Subsoil:
7 to 15 inches—yellowish brown silty clay loam that has strong brown and light brownish gray mottles
15 to 23 inches—grayish brown silty clay loam that has yellowish brown and strong brown mottles
23 to 54 inches—grayish brown silty clay loam that has strong brown mottles
54 to 62 inches—grayish brown loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High or very high
Seasonal high water table: At a depth of 1 to 1.5 feet from January through April
Shrink-swell potential: Low
Flooding: Occasional
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Fair. The surface layer is friable and easily worked during the drier seasons but tends to crust after hard rains.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid in the surface layer and the upper part of the subsoil; moderately alkaline in the subsoil below a depth of 40 inches
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Collins soils, which are in landscape positions similar to those of the Arkabutla soil but have coarser textures and are better drained

Similar soils
- Soils that are better drained than the Arkabutla soil, are not as acid, and are in slightly higher positions
- Soils that are in landscape positions similar to those of the Arkabutla soil but are not as heavy

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, grain sorghum, and wheat
Management concerns:
- Seasonal wetness
- Flooding
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited to pasture; moderately suited to hayland
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Seasonal wetness
- Flooding

Management measures:
- Restricting grazing during wet seasons and preventing overgrazing minimize soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; fair for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Wetness
- Flooding

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Flooding
- Wetness

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Flooding
- Low strength

Management measures:
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Incorporating sand and gravel into the soil and compacting the roadbed improve the strength of the soil.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 4W

10—Arkabutla and Falaya soils, 0 to 5 percent slopes, frequently flooded

Setting

Landscape: Southern Mississippi River Valley Loess Hills
Landform: Flood plains of active streams
Landform position: Near active streams and in reworked areas of ancient stream channels

Shape of areas: Broad to narrow
Size of areas: 10 to 100 acres

Composition

Arkabutla and similar soils: 45 percent
Falaya and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

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

Subsoil:
7 to 14 inches—brown silt loam that has dark yellowish brown and grayish brown mottles
14 to 24 inches—light brownish gray silty clay loam that has yellowish brown and strong brown mottles
24 to 44 inches—light brownish gray silt loam that has yellowish brown mottles
44 to 60 inches—gray loam that has strong brown mottles

Falaya
Surface layer:
0 to 11 inches—brown silt

Subsoil:
11 to 16 inches—brown silt loam that has light brownish gray mottles
16 to 30 inches—light brownish gray silt that has brown and yellowish brown mottles

Substratum:
30 to 51 inches—grayish brown silt loam that has dark yellowish brown and yellowish brown mottles
51 to 70 inches—grayish brown silt loam that has light brownish gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: Arkabutla—high or very high; Falaya—high
Seasonal high water table: Arkabutla—apparent, at a depth of 1 to 1.5 feet from January to April in most years; Falaya—apparent, at a depth of 1 to 2 feet from December to April in most years
Shrink-swell potential: Low
Flooding: Frequent
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Arkabutla—fair; the surface layer is very friable and easily tilled over a wide range of moisture content; Falaya—good; the surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Moderate
Reaction: Arkabutla—very strongly acid or strongly acid in the surface layer and the upper part of the subsoil and moderately acid below a depth of 40 inches; Falaya—very strongly acid or strongly acid
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Collins soils, which are in landscape positions similar to those of the Arkabutla and Falaya soils but have coarser textures and are better drained
- Falaya soils that have a clayey, buried soil at a depth of more than 20 inches

Similar soils
- Soils that are better drained than the Arkabutla and Falaya soils, are not as acid, and are in slightly higher positions

Land Use

Dominant uses: Forestland
Other uses: Cropland

Cropland
Suitability: Poorly suited
Commonly grown crops: Cotton, corn, grain sorghum, soybeans, and wheat
Management concerns:
- Wetness
- Flooding
- A plow pan can restrict root penetration and the downward movement of water through the soils.

Management measures:
- Proper row arrangement helps to remove surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited to pasture; poorly suited to hayland
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Flooding
- Wetness

Management measures:
- Restricting grazing when the soils are too wet minimizes compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soils.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition
- Seedling mortality may be significant because of the flooding or seasonal high water table.
- Trees are occasionally subject to windthrow during periods when the soils are wet.
- Root development may be restricted because of the seasonal high water table.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soils, reduces the hazard of erosion, and helps to maintain productivity.

- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Arkabutla—good for openland wildlife and forestland wildlife, fair for wetland wildlife; Falaya—good for openland wildlife and forestland wildlife, fair for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Flooding
- Wetness

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Flooding
- Wetness

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Flooding
- Low strength

Management measures:
- High-strength fill material can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: Arkabutla and Falaya—4w
Forestland ordination symbol: Arkabutla—4W; Falaya—9W

11—Askew silt loam, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges; swales

Slope: 0 to 1 percent
Shape of areas: Broad and irregular
Size of areas: 10 to 100 acres

Composition

Askew and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

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

Subsoil:
7 to 13 inches—brown silt loam that has yellowish brown mottles
13 to 19 inches—yellowish brown silt loam that has light brownish gray and pale brown mottles
19 to 36 inches—pale brown silt loam that has yellowish brown and light brownish gray mottles
36 to 57 inches—light brownish gray loam that has dark yellowish brown mottles
57 to 78 inches—gray silt loam that has brownish yellow and dark yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Moderate or high
Seasonal high water table: Perched, at a depth of 2 to 3 feet from December through April in most years
Shrink-swell potential: Low
Flooding: Rare
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Moderate
Reaction: Very strongly acid to moderately acid in the surface layer and the upper part of the subsoil; strongly acid to slightly acid in the lower part of the subsoil
Parent material: Loamy alluvium

Minor Components

Dissimilar soils
- Areas that have strata of silty clay or clay within a depth of 40 inches

Similar soils
- Soils that are better drained than the Askew soil and are on higher ridges
- Soils that are not as well drained as the Askew soil and are in lower swales

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Slow runoff

- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:

- Proper row arrangement facilitates removal of surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland

Suitability: Well suited

Adapted plants: Common bermudagrass and tall fescue

Management concerns:

- Seasonal wetness

Management measures:

- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland

Suitability: Well suited

Potential for commercial species: Good for hardwoods and pine trees

Productivity class: Good

Management concerns:

- Plant competition
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:

- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat

Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; poor for wetland wildlife

Management concerns:

- None

Management measures:

- Species to be planted for habitat should be carefully selected.

Dwellings without basements

Suitability: Moderately suited

Management concerns:

- Wetness
- Flooding

Management measures:

- Constructing on the highest part of the landscape reduces the risk of damage from the flooding.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns:

- Wetness

Management measures:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves system performance.

Local roads and streets
Suitability: Moderately suited
Management concerns:
- Wetness
- Low strength

Management measures:
- High-strength fill material that has good internal drainage can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Well suited
Management concerns:
- None

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 1
Forestland ordination symbol: 8A

12—Askew silt loam, 1 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges; swales
Slope: 1 to 3 percent
Shape of areas: Broad and irregular
Size of areas: 10 to 100 acres

Composition

Askew and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsurface layer:
7 to 13 inches—yellowish brown and brown silt loam that has grayish brown mottles

Subsoil:
13 to 36 inches—brown loam that has dark yellowish brown and light brownish gray mottles
36 to 49 inches—brown fine sandy loam that has dark yellowish brown and light brownish gray mottles

Substratum:
49 to 78 inches—light brownish gray sandy loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Moderate
Available water capacity: Moderate or high
Seasonal high water table: Perched, at a depth of 2 to 3 feet from December through April in most years
Shrink-swell potential: Low
Flooding: Rare
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Very strongly acid to moderately acid in the surface layer, subsurface layer, and subsoil; strongly acid to slightly acid in the substratum
Parent material: Loamy alluvium

Minor Components

Dissimilar soils

- Areas that have strata of silty clay or clay within a depth of 40 inches
- Narrow, elongated areas of Askew soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils

- Soils that are better drained than the Askew soil and are on higher ridges
- Soils that are not as well drained as the Askew soil and are in lower swales

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:

- A slight hazard of erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:

- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:

- Soil compaction

Management measures:

- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees

Productivity class: Good
Management concerns:
• Plant competition
Management measures:
• Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
• Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; poor for wetland wildlife
Management concerns:
• None
Management measures:
• Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Moderately suited
Management concerns:
• Wetness
• Flooding
Management measures:
• Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from wetness.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
• Wetness
Management measures:
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves system performance.

Local roads and streets
Suitability: Moderately suited
Management concerns:
• Wetness
• Low strength
Management measures:
• High-strength fill material that has good internal drainage can be used as a road base to elevate roads above the flooding.

Lawns and landscaping
Suitability: Well suited
Management concerns:
• None
Management measures:
• Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 8A

13—Beulah fine sandy loam, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges and higher positions on natural levees
Slope: 0 to 1 percent
Shape of areas: Broad, leveled areas corresponding to fields
Size of areas: 5 to 20 acres

Composition

Beulah and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 8 inches—brown fine sandy loam

Subsoil:
8 to 17 inches—yellowish brown loam that has brown mottles
17 to 38 inches—mottled yellowish brown and brown loam

Substratum:
38 to 44 inches—mottled yellowish brown and brown very fine sandy loam
44 to 55 inches—mottled yellowish brown and brown fine sandy loam
55 to 64 inches—yellowish brown fine sandy loam that has brownish gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Low or moderate
Seasonal high water table: At a depth of 6 feet or more, if present
Shrink-swell potential: Low
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content.
Natural fertility: Moderate
Reaction: Very strongly acid or strongly acid, except where lime has been applied, in the surface layer and subsoil; strongly acid to neutral in the substratum
Parent material: Loamy and sandy sediments

Minor Components

Dissimilar soils

- Areas that have a clayey, buried soil at a depth of more than 20 inches, have been filled by land leveling, and are in slightly lower positions than the Beulah soil

Similar soils

- Soils that are in landscape positions similar to those of the Beulah soil but are not as sandy, have more clay, and are not as well drained
- Soils that are not as sandy as the Beulah soil, have more clay, are not as well drained, and are in lower positions

- Soils on ridges that have been leveled and from which minimal amounts of soil material have been removed

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Wind erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter and help to prevent wind erosion.
- If a plow pan forms, it can be broken up by subsoiling.
- Because of the low available water capacity of the soil, irrigation can be beneficial during dry periods.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:
- Weed encroachment

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Fair
Management concerns:
- Seedling mortality
- Plant competition
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited

Management concerns:
- Flooding

Management measures:
- Selecting building sites in the higher areas reduces the risk of damage from the flooding.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Poor filtering capacity

Management measures:
- Building up or mounding the absorption field with suitable fill material increases the filtering capacity of the field.

Local roads and streets
Suitability: Moderately suited
Management concerns:
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Droughtiness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2s
Forestland ordination symbol: 8S

14—Beulah fine sandy loam, 1 to 5 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges and higher positions on natural levees
Slope: 1 to 5 percent
Shape of areas: Broad to narrow; elongated
Size of areas: 5 to 50 acres

Composition

Beulah and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 8 inches—dark yellowish brown fine sandy loam

Subsurface layer:
8 to 14 inches—dark yellowish brown fine sandy loam that has brown mottles

Subsoil:
14 to 27 inches—yellowish brown fine sandy loam that has brown mottles
27 to 38 inches—dark yellowish brown fine sandy loam

Substratum:
38 to 64 inches—yellowish brown fine sandy loam that has brown and strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Low or moderate
Seasonal high water table: At a depth of 6 feet or more, if present
Shrink-swell potential: Low
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Slight or moderate
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Strongly acid or moderately acid, except where lime has been applied, in the surface layer and subsurface layer; strongly acid to slightly acid in the subsoil and substratum
Parent material: Loamy and sandy sediments

Minor Components

Dissimilar soils
- Soils that have a sandy texture throughout and that have been deeply cut by land leveling

Similar soils
- Soils that are in landscape positions similar to those of the Beulah soil but are not as sandy, have more clay, and are not as well drained
- Soils that are not as sandy as the Beulah soil, have more clay, are not as well drained, and are in lower landscape positions
- Soils that are in landscape positions similar to those of the Beulah soil but are not as sandy and are not as well drained

Land Use

Dominant uses: Pasture, hayland, and forestland
Other uses: Cropland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, grain sorghum, soybeans, and wheat
Management concerns:
- Wind erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter and reduce the hazard of wind erosion.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.
- Because of the low available water capacity of the soil, irrigation can be beneficial during dry periods.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass, bahiagrass, and tall fescue
Management concerns:
- Weed encroachment

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Seedling mortality
- Plant competition
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- Selecting building sites in the higher areas reduces the risk of damage from the flooding.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Poor filtering capacity

Management measures:
- Building up or mounding the absorption field with suitable fill material increases the filtering capacity of the field.

Local roads and streets
Suitability: Moderately suited
Management concerns:
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited

Management concerns:
- Droughtiness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2s
Forestland ordination symbol: 8S

15—Bruno loamy sand, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Natural levees
Slope: 0 to 2 percent
Shape of areas: Broad to narrow; elongated
Size of areas: 10 to 100 acres

Composition

Bruno and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 12 inches—dark grayish brown loamy sand

Substratum:
12 to 28 inches—dark yellowish brown sand that has strata of silt loam and very fine sandy loam
28 to 65 inches—light brownish gray sand that has strata of loamy very fine sand and silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very low or low
Seasonal high water table: Apparent, at a depth of 4 to 6 feet from December through April in most years
Shrink-swell potential: Low
Flooding: Occasional
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Low
Tilth: Good. The surface layer is very friable and is easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Strongly acid to moderately alkaline
Parent material: Sandy alluvium

Minor Components

Dissimilar soils
- Beulah soils, which are not as well drained as the Bruno soil and have textures of coarser sand

Similar soils
- Soils that are not as well drained as the Bruno soil, have loamy materials at a depth of 22 to 39 inches, and are on slightly higher flood plain splays
- Bruno soils that have strata of silt loam and silty clay or a buried soil at a depth of 40 to 60 inches

Land Use

Dominant uses: Pasture, hayland, and forestland
Other uses: Cropland

Cropland
Suitability: Poorly suited
Commonly grown crops: Grain sorghum (fig. 4) and wheat
Management concerns:
- Droughtiness
- Low available water capacity due to the sandy texture

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- Land leveling reduces the runoff rate and the hazard of erosion.

Pasture and hayland
Suitability: Moderately suited
Adapted plants: Common bermudagrass

Figure 4.—Grain sorghum in an area of Bruno loamy sand, 0 to 2 percent slopes, occasionally flooded.

Management concerns:
- Low production in dry seasons

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Moderately suited
Potential for commercial species: Fair for pine trees
Productivity class: Fair
Management concerns:
- Equipment use
- Seedling mortality
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Poor for openland wildlife and forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Flooding

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Flooding

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Droughtiness
- Flooding

Management measures:
- Drought-resistant species of grass, shrubs, and trees should be selected.

Interpretive Groups

Land capability classification: 3s
Forestland ordination symbol: 8S

16—Dubbs loam, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains or low terraces
Landform position: Low ridges in the higher parts of the landscape
Slope: 0 to 1 percent
Shape of areas: Broad and slightly irregular
Size of areas: 10 to 100 acres

Composition

Dubbs and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 23 inches—dark yellowish brown clay loam
23 to 36 inches—dark yellowish brown loam that has light yellowish brown mottles
36 to 52 inches—brown very fine sandy loam that has brown mottles

Substratum:
52 to 75 inches—brown very fine sandy loam that has grayish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 6 feet or more, if present
Shrink-swell potential: Moderate
Flooding: None
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately acid
Parent material: Loamy alluvium

Minor Components

Dissimilar soils

- Soils where cutting for land leveling has resulted in a thin surface layer or, in a few areas, no surface layer
- Narrow, elongated areas of soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils

- Soils that are not as well drained as the Dubbs soil and are in lower positions

- Soils that are in landscape positions similar to those of the Dubbs soil but are better drained
- Soils that are not as well drained as the Dubbs soil and are in lower positions and swales
- Soils that have more clay than the Dubbs soil, are not as well drained, and are in lower positions and swales

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- A slight hazard of wind erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- None

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Well suited
Management concerns:
• Moderate shrink-swell potential
Management measures:
• Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential.

Septic tank absorption fields
Suitability: Well suited
Management concerns:
• None
Management measures:
• None

Local roads and streets
Suitability: Poorly suited
Management concerns:
• Low strength
• Moderate shrink-swell potential
Management measures:
• Installing high-strength soil material helps to overcome the low strength of the natural soil material.
• Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential.

Lawns and landscaping
Suitability: Well suited
Management concerns:
• None
Management measures:
• Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 1
Forestland ordination symbol: 10A

17—Dubbs loam, 1 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains or low terraces
Landform position: Low ridges in the higher parts of the landscape
Slope: 1 to 3 percent
Shape of areas: Gently undulating
Size of areas: 10 to 100 acres

Composition

Dubbs and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown loam
7 to 10 inches—dark yellowish brown clay loam

Subsoil:
10 to 16 inches—dark yellowish brown clay loam
16 to 36 inches—dark yellowish brown loam that has light yellowish brown mottles
36 to 65 inches—yellowish brown very fine sandy loam that has pale brown mottles

Substratum:
65 to 75 inches—dark yellowish brown sandy loam that has grayish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 6 feet or more, if present
Shrink-swell potential: Moderate
Flooding: None
Hazard of water erosion: Moderate
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately acid in the surface layer, except where lime has been applied
Parent material: Loamy alluvium

Minor Components

Dissimilar soils
- Soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils
- Soils that are not as well drained as the Dubbs soil and are in slightly lower positions
- Soils that are in landscape positions similar to those of the Dubbs soil but are better drained
- Soils that are not as well drained as the Dubbs soil and are in lower positions and swales
- Soils that have more clay than the Dubbs soil, are not as well drained, and are in lower positions and swales

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.

- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Improved bermudagrass and tall fescue
Management concerns:
- Weed encroachment

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Moderately suited
Management concerns:
- Moderate shrink-swell potential

Management measures:
- Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential of the Dubbs soil.

Septic tank absorption fields
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Installing high-strength soil material helps to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns:
• None
Management measures:
• Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 10A

18—Dubbs very fine sandy loam, 3 to 7 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains or low terraces
Landform position: Low ridges in the higher parts of the landscape
Slope: 3 to 7 percent
Shape of areas: Long, narrow, and undulating
Size of areas: 10 to 100 acres

Composition

Dubbs and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown very fine sandy loam

Subsoil:
7 to 36 inches—yellowish brown clay loam that has brown mottles
36 to 75 inches—pale brown loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 6 feet or more, if present
Shrink-swell potential: Moderate
Flooding: None
Hazard of water erosion: Moderate
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied, in the surface layer; very strongly acid to neutral in the subsoil
Parent material: Loamy alluvium

Minor Components

Dissimilar soils
• Soils that are in landscape positions similar to those of the Dubbs soil but have slopes of 8 to 12 percent

- Soils that are in landscape positions similar to those of the Dubbs soil but have sandy textures

Similar soils
- Soils that are not as well drained as the Dubbs soil and are in lower positions
- Soils that are not as well drained as the Dubbs soil and are in lower positions and swales
- Soils that have more clay than the Dubbs soil, are not as well drained, and are in lower positions and swales

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Moderately suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Short, irregular slopes
- A moderate hazard of erosion
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass and tall fescue
Management concerns:
- Weed encroachment

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Erosion where the soil is not protected
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; very poor for wetland wildlife

Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Moderately suited
Management concerns:
- Moderate shrink-swell potential

Management measures:
- Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential of the Dubbs soil.
- Exposed soils on slopes should be vegetated to prevent erosion.

Septic tank absorption fields
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Installing high-strength soil material helps to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Well suited
Management concerns:
- None

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 10A

19—Dubbs-Dundee complex, 0 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains or low terraces
Landform position: Dubbs—meander curves on gently undulating ridges that range from 50 to 250 feet in width and from 1 to 3 feet in height; Dundee—swales between the ridges
Shape of areas: Broad and somewhat irregular
Size of areas: 20 to 500 acres

Composition

Dubbs and similar soils: 55 percent
Dundee and similar soils: 33 percent
Dissimilar soils: 12 percent

Typical Profile

Dubbs
Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 28 inches—yellowish brown silty clay loam
28 to 36 inches—brown loam that has strong brown mottles

Substratum:
36 to 75 inches—brown very fine sandy loam that has dark yellowish brown mottles

Dundee
Surface layer:
0 to 8 inches—brown loam

Subsoil:
8 to 26 inches—grayish brown silty clay loam that has dark yellowish brown and strong brown mottles

Substratum:
26 to 70 inches—grayish brown loam that has dark yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Dubbs—well drained; Dundee—somewhat poorly drained
Permeability: Dubbs—moderate; Dundee—moderately slow
Available water capacity: High or moderate
Seasonal high water table: Dubbs—at a depth of 6 feet or more, if present; Dundee—in undrained areas, at a depth of 1.5 to 3.5 feet from January through to April in most years. Most areas, however, have been affected by artificial drainage and the seasonal water table is below a depth of 3.5 feet.
Shrink-swell potential: Moderate
Flooding: Dubbs—none; Dundee—rare where the soil is protected by permanent flood-control structures and drainage outlets
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Dubbs—very strongly acid to moderately acid; Dundee—very strongly acid to moderately alkaline in the surface layer and subsoil and very strongly acid to neutral in the substratum
Parent material: Loamy alluvium

Minor Components

Dissimilar soils
- Narrow, elongated areas of Dubbs soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils
- Soils that are not as well drained as the Dubbs soil, are better drained than the Dundee soil, and are in positions between the two soils
- Soils that are in narrow, shallow depressions, have more clay than the Dubbs and Dundee soils, and are in landscape positions similar to those of the Dundee soil
- Soils that are in landscape positions similar to those of the Dubbs soil but have less clay

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, grain sorghum, soybeans, and wheat
Management concerns:
- A slight hazard of erosion
- Seasonal wetness in the Dundee soil

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Improved bermudagrass and tall fescue
Management concerns:
- Wetness in the Dundee soil

Management measures:
- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soils.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soils, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Dubbs—good for openland wildlife and forestland wildlife, very poor for wetland wildlife; Dundee—good for openland wildlife and forestland wildlife, fair for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Moderately suited
Management concerns:
- Moderate shrink-swell potential in the Dubbs soil
- Wetness in the Dundee soil

Management measures:
- Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential of the Dubbs soil.
- Proper surface and internal drainage practices help to overcome the wetness in the Dundee soil.

Septic tank absorption fields
Suitability: Dubbs—well suited; Dundee—poorly suited
Management concerns:
- Wetness in the Dundee soil

Management measures:
- In areas of the Dundee soil, enlarging the septic tank absorption field and filling the trenches with clean, graded, gravelly material improve the performance of the system.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Installing high-strength soil material helps to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Dubbs—well suited; Dundee—moderately suited
Management concerns:
- Wetness in the Dundee soil

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: Dubbs—2e; Dundee—2w
Forestland ordination symbol: Dubbs—10A; Dundee—12W

20—Dubbs-Dundee-Urban land complex, 0 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees. Areas of the soils and Urban land are so intermingled that mapping them separately was not practical at the selected scale.
Landform position: Dubbs—meander curves on gently undulating ridges that range from 50 to 250 feet in width and from 1 to 3 feet in height; Dundee—swales between the ridges
Shape of areas: Determined by urban development
Size of areas: 20 to 300 acres

Composition

Dubbs and similar soils: 40 percent
Dundee and similar soils: 20 percent
Urban land and similar areas: 35 percent
Dissimilar soils: 5 percent

Typical Profile

Dubbs

Surface layer:
0 to 7 inches—brown loam

Subsoil:
7 to 28 inches—yellowish brown silty clay loam
28 to 36 inches—brown loam that has strong brown mottles

Substratum:
36 to 75 inches—brown very fine sandy loam that has dark yellowish brown mottles

Dundee

Surface layer:
0 to 8 inches—brown loam

Subsoil:
8 to 26 inches—grayish brown silty clay loam that has dark yellowish brown and strong brown mottles

Substratum:
26 to 70 inches—grayish brown loam that has dark yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Dubbs—well drained; Dundee—somewhat poorly drained; Urban land—variable
Permeability: Dubbs—moderate; Dundee—moderately slow; Urban land—variable
Available water capacity: Dubbs and Dundee—high; Urban land—variable
Seasonal high water table: Dubbs—at a depth of 6 feet or more. Dundee—in undrained areas, at a depth of 1.5 to 3.5 feet from January through to April in most years. Most areas, however, have been affected by artificial drainage and the seasonal water table is below a depth of 3.5 feet. Urban land—variable
Shrink-swell potential: Dubbs and Dundee—moderate; Urban land—variable
Flooding: Dubbs—none; Dundee and Urban land—rare where the soil is protected by permanent flood-control structures and drainage outlets
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Dubbs and Dundee—moderate; Urban land—variable, if not already covered with construction material
Tilth: Dubbs and Dundee—good; the surface layer is very friable; Urban land—fair where not covered by construction material.
Natural fertility: Dubbs and Dundee—good; Urban land—variable
Reaction: Dubbs—very strongly acid to moderately acid; Dundee—very strongly acid to moderately alkaline in the surface layer and subsoil and very strongly acid to neutral in the substratum; Urban land—variable
Parent material: Loamy alluvium

Minor Components

Dissimilar soils

- Soils that were mixed and disturbed during construction in adjacent areas
- Soils in wetter areas in drainageways

Similar soils

- Soils that are not as well drained as the Dubbs soil, are better drained than the Dundee soil, and are in positions between the two soils
- Soils that are in narrow, shallow depressions, have more clay than the Dubbs and Dundee soils, and are in landscape positions similar to those of the Dundee soil
- Soils that are in landscape positions similar to those of the Dubbs soil but have less clay

Land Use

Dominant uses: Lawn grasses and ornamental plants
Other uses: None

Cropland
Suitability: Well suited
Commonly grown crops: None
Management concerns:
• None
Management measures:
• None

Pasture and hayland
Suitability: Well suited
Adapted plants: None
Management concerns:
• None
Management measures:
• None

Forestland
Suitability: Well suited to shade and ornamental trees and plants; Dubbs—well suited to eastern cottonwood, green ash, Nuttall oak, and sweetgum; Dundee—well suited to cherrybark oak, eastern cottonwood, sweetgum, water oak, and yellow poplar; Urban land—variable
Potential for commercial species: Not applicable
Productivity class: Not applicable
Management concerns:
• None
Management measures:
• None

Wildlife habitat
Potential to support habitat for wildlife: Dubbs—good for openland wildlife and forestland wildlife, very poor for wetland wildlife; Dundee—good for openland wildlife and forestland wildlife, fair for wetland wildlife; Urban land—variable
Management concerns:
• None
Management measures:
• Species to be planted for habitat within residential areas should be carefully selected.

Dwellings without basements
Suitability: Dubbs and Dundee—moderately suited; Urban land—variable (Urban land consists of undisturbed and disturbed Dubbs and Dundee soils and reworked soil material and is covered by houses, streets, industrial and commercial buildings, and parking lots.)
Management concerns:
• Moderate shrink-swell potential in the Dubbs and Dundee soils
• Variable concerns in the Urban land
Management measures:
• Proper design of structures and the use of soil material from a site that has a low shrink-swell potential help to offset the moderate shrink-swell potential of the Dubbs and Dundee soils.
• Proper surface and internal drainage practices help to overcome the wetness in the Dundee soil.

Septic tank absorption fields
Suitability: Dubbs—well suited; Dundee—poorly suited; Urban land—variable
Management concerns:
- Wetness
- Moderately slow permeability in the Dundee soil

Management measures:
- Most areas of this map unit are serviced by a municipal sewage system. In the few areas where a septic tank absorption field is needed, enlarging the field and filling the trenches with clean, graded, gravelly material improve the performance of the system.

Local roads and streets
Suitability: Dubbs and Dundee—poorly suited; Urban land—variable
Management concerns:
- Low strength in the Dubbs and Dundee soils
- Wetness in the Dundee soil
- Variable concerns in the Urban land

Management measures:
- Installing high-strength soil material helps to overcome the low strength of the natural soil material in areas of the Dubbs and Dundee soils.
- Installing soil material that has good internal drainage helps to overcome the wetness in areas of the Dundee soil.

Lawns and landscaping
Suitability: Dubbs—well suited; Dundee—moderately suited; Urban land—variable
Management concerns:
- Wetness in the Dundee soil

Management measures:
- Lawn grasses, ornamental shrubs, and trees to be planted should be carefully selected.
- Ditches should be kept open to facilitate drainage and removal of surface water.
- Maintaining vegetation on ditch banks and controlling runoff from construction sites help to control or prevent erosion and sedimentation.

Interpretive Groups

Land capability classification: Dubbs—2e; Dundee—2w; Urban land—not assigned
Forestland ordination symbol: Dubbs—10A; Dundee—12W; Urban land—not assigned

21—Dundee loam, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains
Landform position: Swales and lower positions on old natural levees
Slope: 0 to 1 percent
Shape of areas: Broad and somewhat irregular
Size of areas: 10 to 100 acres

Composition

Dundee and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 8 inches—brown loam

Subsoil:
8 to 16 inches—grayish brown loam that has yellowish brown mottles
16 to 26 inches—dark grayish brown clay loam that has strong brown and grayish brown mottles
26 to 38 inches—grayish brown loam that has dark yellowish brown and light brownish gray mottles

Substratum:
38 to 55 inches—grayish brown loam that has dark yellowish brown mottles
55 to 70 inches—grayish brown silt loam that has dark yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: At a depth of 1.5 to 3.5 feet from January through April in most years in undrained areas. Most areas, however, are affected to some degree by artificial drainage.
Shrink-swell potential: Moderate
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to moderately acid, except where lime has been applied, in the surface layer and subsoil; very strongly acid to neutral in the substratum
Parent material: Loamy alluvium

Minor Components

Dissimilar soils

- Narrow, elongated areas of Dundee soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses
- Dundee soils that have been altered by land leveling; and, in some areas, soils where cutting for land leveling has resulted in a thin surface layer or, in a few areas, no surface layer

Similar soils

- Soils that are better drained than the Dundee soil and are in slightly higher positions
- Soils that are better drained than the Dundee soil and are on higher ridges
- Soils that have more clay than the Dundee soil and are in positions similar to those of the Dundee soil or slightly lower
- Soils that have strata of silty clay or clay within a depth of 40 inches

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited

Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Seasonal wetness
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Improved bermudagrass and tall fescue
Management concerns:
- Soil compaction
- Wetness

Management measures:
- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife, forestland wildlife, and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- Constructing dwellings on the highest part of the landscape and modifying the slope to divert surface water reduce the risk of damage from the flooding.

Septic tank absorption fields
Suitability: Poorly suited

Management concerns:
- Wetness
- Moderately slow permeability

Management measures:
- Enlarging the septic tank absorption field and filling the trenches with clean, graded, gravelly material improve the performance of the system.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Installing high-strength soil material that has good internal drainage helps to overcome wetness and the low strength of the natural soil material.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 12W

22—Falaya silt, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Flood plains along perennial streams
Slope: 0 to 2 percent
Shape of areas: Elongated; somewhat parallel to drainageways
Size of areas: 10 to 100 acres

Composition

Falaya and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 11 inches—brown silt

Subsoil:
11 to 16 inches—brown silt loam that has light brownish gray mottles
16 to 30 inches—brown silt that has grayish brown and yellowish brown mottles

Substratum:
30 to 51 inches—grayish brown silt loam that has dark yellowish brown and yellowish brown mottles
51 to 70 inches—grayish brown silt loam that has light brownish gray mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: High or moderate
Seasonal high water table: At a depth of 1 to 2 feet from December through April in most years
Shrink-swell potential: Low
Flooding: Occasional; can occur for brief to long durations during the winter and early spring in areas where the soil is not protected by permanent flood-control structures
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Very strongly acid or strongly acid
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Falaya soils that have a clayey, buried soil at a depth of more than 20 inches

Similar soils
- Soils that are better drained than the Falaya soil, are not as acid, and are in slightly higher positions
- Soils that are in landscape positions similar to those of the Falaya soil but have more clay
- Soils that are in landscape positions similar to those of the Falaya soil but are better drained

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Seasonal wetness
- Flooding
- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Proper row arrangement helps to remove surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Adapted plants: Common bermudagrass, bahiagrass, and tall fescue

Management concerns:
- Seasonal wetness

Management measures:
- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland

Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Wetness
- Equipment use
- Seedling mortality may be significant because of the flooding or seasonal high water table.
- Trees are subject to windthrow during periods when the soil is wet.
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat

Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; fair for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements

Suitability: Not suited
Management concerns:
- Wetness
- Flooding

Management measures:
- This map unit is severely limited as a site for dwellings; a site that has better suited soils should be selected.

Septic tank absorption fields

Suitability: Not suited
Management concerns:
- Wetness
- Flooding
- Moderate permeability

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns:
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 9W

23—Dowling muck

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Depressions, sloughs, old oxbows, and brakes
Slope: Less than 1 percent
Shape of areas: Irregular
Size of areas: 10 to 300 acres

Composition

Dowling and similar soils: 100 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown muck
4 to 6 inches—dark grayish brown muck

Subsoil:
6 to 18 inches—dark gray clay that has yellowish brown mottles
18 to 37 inches—gray clay that has strong brown mottles

Substratum:
37 to 58 inches—gray clay that has olive mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Very slow
Available water capacity: High
Seasonal high water table: Above the surface most of the year
Shrink-swell potential: Very high
Flooding: Frequent
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate to very high
Tilth: Poor. The surface layer is firm, is very sticky when wet, is hard when dry, and is very difficult to till.
Natural fertility: Fair
Reaction: Slightly acid or neutral in the surface layer and the upper part of the subsoil;

slightly acid to slightly alkaline in the lower part of the subsoil; neutral to moderately alkaline in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- None

Similar soils
- Soils that are better drained than the Dowling soil, are in slightly higher positions, and are not covered by water most of the year

Land Use

Dominant uses: Forestland
Other uses: Wildlife habitat

Cropland
Suitability: Not suited
Commonly grown crops: None
Management concerns:
- Wetness
- Ponding

Management measures:
- A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Not suited
Adapted plants: None
Management concerns:
- Wetness
- Ponding

Management measures:
- A site that has better suited soils should be selected.

Forestland
Suitability: Moderately suited
Potential for commercial species: Good for hardwoods
Productivity class: Fair
Management concerns:
- Ponding
- Seedling mortality
- Equipment use—planting equipment and harvesting equipment can severely affect the surface layer when the soil is wet, cause rutting and compaction when the soil is moist, and cause displacement of the surface layer when the soil is dry.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, reduce the seedling mortality rate, the plant mortality rate, and the extent of soil compaction.

Wildlife habitat
Potential to support habitat for wildlife: Very poor for openland wildlife; poor for forestland wildlife; good for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Shrink-swell potential
- Ponding
- Flooding
- Wetness

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Slow percolation
- Ponding
- Flooding

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Not suited
Management concerns:
- Low strength
- Ponding
- Flooding

Management measures:
- A site that has better suited soils should be selected.

Lawns and landscaping
Suitability: Not suited
Management concerns:
- Ponding
- Flooding
- Too clayey

Management measures:
- A site that has better suited soils should be selected.

Interpretive Groups

Land capability classification: 7w
Forestland ordination symbol: 6W

24—Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Slightly convex positions
Slope: 0 to 2 percent
Shape of areas: Somewhat elongated and irregular
Size of areas: 10 to 100 acres

Composition

Oaklimeter and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 12 inches—dark yellowish brown silt loam
12 to 25 inches—dark yellowish brown loam that has grayish brown and brown mottles
25 to 34 inches—brown loam that has dark yellowish brown and grayish brown mottles
34 to 62 inches—grayish brown silty clay loam that has strong brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: At a depth of 1.5 to 2.5 feet from November through April in most years
Shrink-swell potential: Low
Flooding: Occasional
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Moderately acid or strongly acid in the surface layer and the upper part of the subsoil; very strongly or strongly acid below a depth of 40 inches
Parent material: Silty alluvium

Minor Components

Dissimilar soils
- Collins soils, which have the same texture and drainage classes as the Oaklimeter soil but are in higher positions on the flood plain

Similar soils
- Soils that are not as well developed as the Oaklimeter soil and are in slightly lower positions
- Soils that have a higher content of silt than the Oaklimeter soil, are not as well drained, and are in lower positions

Land Use

Dominant uses: Cropland and forestland
Other uses: Pasture and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Surface compaction
- Flooding

- A plow pan can restrict root penetration and the downward movement of water through the soil.

Management measures:
- Proper row arrangement facilitates removal of surface water.
- Using conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland

Suitability: Well suited

Commonly grown crops: Common bermudagrass, improved bermudagrass, and tall fescue

Management concerns:
- Surface compaction
- Flooding

Management measures:
- Restricting grazing during wet seasons minimizes surface compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland

Suitability: Well suited

Potential for commercial species: Good for hardwoods and pine trees

Productivity class: Good

Management concerns:
- Plant competition
- Seedling mortality may be significant because of the flooding.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat

Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; poor for wetland wildlife

Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements

Suitability: Not suited

Management concerns:
- Wetness
- Flooding

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields

Suitability: Not suited

Management concerns:
- Wetness
- Flooding

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Flooding
- Wetness

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Flooding
- Wetness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 2w
Forestland ordination symbol: 10A

25—Pits-Udorthents complex

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves of active and ancient streams
Landform position: Mainly natural levees. This map unit consists of open excavations from which sand or loamy material has been removed and the piles of soil material that were left beside the pits after the sand or loamy material was removed.
Shape of areas: Broad to narrow; irregular
Size of areas: 5 to 100 acres

Composition

Pits: About 75 percent
Udorthents: About 25 percent

Properties and Qualities

Sand pits are areas from which only sand has been removed. Borrow pits are areas from which soil material and the underlying material have been removed for use in the construction of roads and as fill material.

Fertility is low to moderate in the pits, and the soil material generally is droughty. Pits support little or no vegetation, but a few willow trees and annual weeds grow on the floor of some pits. Some pits are ponded for long periods during the wetter parts of the year.

Typically, the Udorthents consist of stratified and mixed, sandy and loamy soil material. These soils are spoil banks or piles of soil material left beside or in the pits.

The Udorthents are characterized by low to moderate fertility. The seasonal high water table ranges from near the surface to below a depth of 6 feet in most areas. The available water capacity and permeability vary within short distances. In many areas, the soils are droughty.

Included in this map unit are a few small undisturbed areas of Bruno, Dubbs, Dundee, and Silverdale soils. These soils have an orderly sequence of soil layers. Included areas make up about 10 percent of the map unit.

Most areas of this unit are idle or are used only as extensive recreational areas and as habitat for wildlife. The natural vegetation is mainly annual and perennial grasses and forbs. Scrubby hardwoods grow in some areas of Udorthents, and willow trees grow in some of the pits.

This map unit is poorly suited to crops, pasture, forestland, and urban development. The uneven topography, restricted drainage, ponding, and hazard of erosion are the main management concerns. Pits require major reclamation before they can be used for crops or pasture. Planting common bermudagrass or pine trees on the Udorthents can help to control erosion, but the grass and trees grow slowly because of low fertility and droughtiness. Water collects in some of the pits. These pits provide habitat for ducks.

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

26—Silverdale loamy fine sand, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Depressions in natural levees
Slope: 0 to 2 percent
Shape of areas: Somewhat elongated; broader areas where water spills over channel banks
Size of areas: 30 to 300 acres

Composition

Silverdale and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 5 inches—brown loamy fine sand

Substratum:
5 to 13 inches—light gray loamy fine sand that has brownish yellow mottles
13 to 28 inches—light yellowish brown loamy fine sand that has light gray mottles
28 to 35 inches—dark yellowish brown silt loam that has light brownish gray mottles
35 to 57 inches—dark yellowish brown silt loam that has brownish yellow and strong brown mottles
57 to 80 inches—yellowish brown silt loam that has light brownish gray and dark yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid in the upper part of the soil and moderate in the lower part
Available water capacity: Moderate or high
Seasonal high water table: At a depth of 2 to 3 feet for brief periods from January to May
Shrink-swell potential: Low
Flooding: Occasional; occurs mainly in winter and spring and ranges in depth from a few inches to about 3 feet
Hazard of water erosion: Slight

Content of organic matter in the surface layer: Low
Tilth: Fair. The surface layer is very friable, is easily tilled over a wide range of moisture content, and tends to be loose when dry.
Natural fertility: Poor
Reaction: Moderately acid to neutral
Parent material: Sandy sediments over loamy alluvium

Minor Components

Dissimilar soils
- Bruno soils, which are on natural stream levees at higher positions than those of the Silverdale soil

Similar soils
- Soils that are sandy throughout and are on natural levees and flood plains adjacent to streams

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Corn
Management concerns:
- Droughtiness

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass
Management concerns:
- Droughtiness

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for pine trees
Productivity class: Good
Management concerns:
- Seedling mortality
- Plant competition

Management measures:
- Using low-pressure (low-impact) ground equipment minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland; good for forestland wildlife; poor for wetland wildlife

Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited
Management concerns:
- Instability of cutbanks
- Wetness
- Flooding

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Wetness
- Flooding
- Poor filtering capacity in the coarse-textured substratum

Management measures:
- This map unit is severely limited as a site for septic tank absorption fields; the local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Moderately suited
Management concerns:
- Wetness
- Flooding

Management measures:
- Roadbeds can be elevated to reduce the risk of damage from the flooding.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Droughtiness
- Flooding

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 3s
Forestland ordination symbol: 8S

27—Tensas silty clay loam, 0 to 1 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Backswamp areas and natural levees
Landform position: Swales and slightly convex, broad transitional areas bordering backswamp areas
Slope: 0 to 1 percent
Shape of areas: Broad and somewhat irregular
Size of areas: 10 to 100 acres

Composition

Tensas and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 5 inches—brown silty clay loam

Subsurface layer:
5 to 11 inches—dark grayish brown silty clay that has brown and dark yellowish brown mottles

Subsoil:
11 to 24 inches—dark grayish brown clay that has dark yellowish brown and yellowish brown mottles
24 to 34 inches—grayish brown clay that has dark grayish brown and brown mottles
34 to 43 inches—grayish brown clay loam that has yellowish brown mottles
43 to 65 inches—grayish brown loam that has yellowish brown and dark yellowish brown mottles

Substratum:
65 to 80 inches—grayish brown silty clay loam that has brown and yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High or very high
Seasonal high water table: At a depth of 1 to 3 feet from December through April in most years
Shrink-swell potential: Very high
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Fair. The surface layer is firm, can be tilled only within a fairly narrow range of moisture content, and tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Very strongly acid to moderately acid in the surface layer, subsurface layer, and the upper part of the subsoil; strongly acid to neutral in the lower part of the subsoil and in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils

- Askew and Dubbs soils, which have less clay than the Tensas soil, are better drained, and are in higher ridge positions
- Tensas soils that have been altered by land leveling. In some areas, cutting for land leveling has resulted in a thin surface layer or, in a few areas, no surface layer. In other areas, the soil has a thicker surface layer because of filling.
- Narrow, elongated areas of Tensas soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils

- Soils that are not as well drained as the Tensas soil and are in lower positions
- Soils that have less clay than the Tensas soil and are in landscape positions similar to those of the Tensas soil or slightly higher

Land Use

Dominant uses: Cultivated crops and forestland
Other uses: Wildlife habitat

Cropland
Suitability: Well suited
Commonly grown crops: Rice and soybeans
Management concerns:
- This soil is sticky when wet, is hard when dry, and can become cloddy if plowed when too wet.
- A plow pan that restricts the downward movement of water and air through the soil commonly occurs in cultivated fields.

Management measures:
- Soil structure and tilth can be maintained or improved by incorporating crop residue into the surface layer and tilling when the soil has the correct moisture content.
- A drainage system that includes proper row direction, temporary field drains, and adequate outlets helps to remove excess surface water after rainfall, thereby reducing crop stress and allowing tillage and harvesting to be done in a timely manner.
- Liming should be considered for those areas where the soil is very strongly acid.
- A good fertility program is needed to ensure consistently high production.
- In some areas, land leveling can reduce the hazard of erosion and the runoff rate, improve drainage, and result in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass, improved bermudagrass, wheat, and tall fescue
Management concerns:
- Wetness limits the use of equipment and affects grazing in parts of most years.

Management measures:
- Restricting grazing during wet seasons minimizes surface compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Wetness
- Equipment use
- Plant competition
- Seedling mortality may be significant because of the seasonal high water table.
- Root development may be restricted because of the seasonal high water table and the clayey subsoil.
- Trees are subject to windthrow during periods when the soil is wet.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife and wetland wildlife

Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited
Management concerns:
- Very high shrink-swell potential
- Wetness

Management measures:
- Reinforcing foundations and footings or backfilling with coarse-textured material strengthens buildings and helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Slow percolation
- Wetness

Management measures:
- Increasing the size of the absorption field improves the performance of the septic system.
- Installing distribution lines during dry periods reduces smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Installing high-strength soil material helps to overcome the low strength of the natural soil material.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 4W

28—Tensas silty clay loam, 1 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Backswamp areas and natural levees
Landform position: Swales and slightly convex, broad transitional areas bordering backswamp areas
Slope: 1 to 3 percent
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Tensas and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 11 inches—brown silty clay loam

Subsoil:
11 to 28 inches—grayish brown clay that has dark yellowish brown and yellowish brown mottles
28 to 43 inches—grayish brown silty clay that has dark yellowish brown mottles

Substratum:
43 to 65 inches—brown silty clay loam that has dark yellowish brown and grayish brown mottles
65 to 80 inches—mottled dark yellowish brown and grayish brown loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High or very high
Seasonal high water table: At a depth of 1 to 3 feet from December through April in most years
Shrink-swell potential: Very high
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Moderate
Content of organic matter in the surface layer: Moderate
Tilth: Fair. The surface layer is firm, can be tilled only within a fairly narrow range of moisture content, and tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Very strongly acid to moderately acid, except where lime has been applied, in the surface layer and the upper part of the subsoil; strongly acid to neutral in the lower part of the subsoil and in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- Askew and Dubbs soils, which have less clay than the Tensas soil, are better drained, and are in higher ridge positions
- Narrow, elongated areas of Tensas soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils
- Soils that are not as well drained as the Tensas soil and are in swales and lower positions
- Soils that have less clay than the Tensas soil and are in landscape positions that are similar to those of the Tensas soil or slightly higher

Land Use

Dominant uses: Cultivated crops and forestland
Other uses: Pasture and hayland

Cropland
Suitability: Well suited

Commonly grown crops: Rice and soybeans
Management concerns:
- Wetness
- Erosion
- The soil is sticky when wet, hard when dry, and can become cloddy when plowed.
- A plow pan that restricts the downward movement of water and air through the soil commonly occurs in cultivated fields.

Management measures:
- Soil structure and tilth can be maintained or improved by incorporating crop residue into the surface layer and tilling when the soil has the correct moisture content.
- Proper row arrangement, conservation tillage, and surface field ditches help to control erosion and remove excess surface water.
- Liming should be considered for those areas where the soil is very strongly acid.
- A good fertility program is needed to ensure consistently high production.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:
- Wetness limits the use of equipment and affects grazing in parts of most years.

Management measures:
- Restricting grazing during wet seasons minimizes surface compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Wetness
- Equipment use
- Plant competition
- Seedling mortality may be significant because of the seasonal high water table.
- Root development may be restricted because of the seasonal high water table and the clayey subsoil.
- Trees are subject to windthrow during periods when the soil is wet.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland wildlife; good for forestland wildlife and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited

Management concerns:
- Very high shrink-swell potential
- Wetness

Management measures:
- Reinforcing foundations and footings or back filling with coarse-textured material strengthens buildings and helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns:
- Slow percolation
- Wetness

Management measures:
- Increasing the size of the absorption field improves the performance of the septic system.
- Installing distribution lines during dry periods reduces smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Incorporating sand and gravel into the soil and compacting the roadbed improve the strength of the soil.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 3e
Forestland ordination symbol: 4W

29—Tensas silty clay loam, 3 to 8 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Backswamp areas and natural levees
Landform position: Ridges and old natural levees
Slope: 3 to 8 percent
Shape of areas: Irregular and narrow
Size of areas: 10 to 30 acres

Composition

Tensas and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

Surface layer:
0 to 11 inches—dark grayish brown silty clay loam

Subsoil:
11 to 43 inches—grayish brown clay that has yellowish brown mottles
43 to 65 inches—brown silty clay loam that has yellowish brown mottles

Substratum:
65 to 80 inches—brown loam that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High or very high
Seasonal high water table: At a depth of 1 to 3 feet from December through April in most years
Shrink-swell potential: Very high
Flooding: Rare where the soil is protected by permanent flood-control structures
Hazard of water erosion: Severe
Content of organic matter in the surface layer: Moderate
Tilth: Fair. The surface layer is firm, can be tilled only within a fairly narrow range of moisture content, and tends to crust and pack after heavy rains.
Natural fertility: Fair
Reaction: Very strongly acid to moderately acid, except where lime has been applied, in the surface layer and the upper part of the subsoil; strongly acid to moderately alkaline in the lower part of the subsoil and in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- Askew and Dubbs soils, which have less clay than the Tensas soil, are better drained, and are in higher ridge positions
- Narrow, elongated areas of Tensas soils that have slopes of 8 to 12 percent and that border sloughs, abandoned channels, and stream courses
- Sandy soils in slope-break positions bordering sloughs, abandoned channels, and stream courses

Similar soils
- Soils that are not as well drained as the Tensas soil and are in lower positions
- Soils that have less clay than the Tensas soil and are in landscape positions that are similar to those of the Tensas soil or slightly higher

Land Use

Dominant uses: Cultivated crops and forestland
Other uses: Pasture and hayland

Cropland
Suitability: Moderately suited
Commonly grown crops: Soybeans
Management concerns:
- Wetness
- Erosion resulting from the slope
- The soil is sticky when wet, hard when dry, and can become cloddy when plowed.
- A plow pan that restricts the downward movement of water and air through the soil commonly occurs in cultivated fields.

Management measures:
- Soil structure and tilth can be maintained or improved by incorporating crop residue into the surface layer and tilling when the soil has the correct moisture content.

- Proper row arrangement, conservation tillage, and surface field ditches help to control erosion and remove excess surface water.
- Liming should be considered for those areas where the soil is very strongly acid.
- A good fertility program is needed to ensure consistently high production.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:
- Wetness limits the use of equipment and affects grazing in parts of most years.

Management measures:
- Restricting grazing during wet seasons minimizes soil compaction.
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods
Productivity class: Good
Management concerns:
- Equipment use
- Plant competition
- Seedling mortality may be significant because of the seasonal high water table.
- Root development may be restricted because of the seasonal high water table and the clayey subsoil.
- Trees are subject to windthrow during periods when the soil is wet.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Fair for openland and wetland wildlife; good for forestland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Poorly suited
Management concerns:
- Very high shrink-swell potential
- Wetness

Management measures:
- Reinforcing foundations and footings or backfilling with coarse-textured material strengthens buildings and helps to prevent the damage caused by shrinking and swelling.
- Designing structures to conform to the natural slope improves soil performance.

Septic tank absorption fields
Suitability: Poorly suited

Management concerns:
- Slow percolation
- Wetness

Management measures:
- Increasing the size of the absorption field improves the performance of the septic system.
- Installing distribution lines during dry periods reduces smearing and sealing of trench walls.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Low strength

Management measures:
- Incorporating sand and gravel into the soil and compacting the roadbed improve the strength of the soil.

Lawns and landscaping
Suitability: Moderately suited
Management concerns:
- Wetness

Management measures:
- Designing plantings to conform to the natural contour helps to control erosion and increases the rate of water infiltration.

Interpretive Groups

Land capability classification: 3w
Forestland ordination symbol: 4W

30—Tensas-Alligator complex, 0 to 3 percent slopes, occasionally flooded

Setting

Landscape: Southern Mississippi River Valley
Landform: Backswamp areas and natural levees
Landform position: Tensas—low ridges; Alligator—swales
Slope: 0 to 3 percent
Shape of areas: Broad to irregular and narrow
Size of areas: 20 to 500 acres

Composition

Tensas and similar soils: 54 percent
Alligator soils: 34 percent
Other similar soils: 12 percent

Typical Profile

Tensas
Surface layer:
0 to 7 inches—brown silty clay loam

Subsoil:
7 to 11 inches—brown silty clay that has strong brown mottles
11 to 35 inches—grayish brown clay that has strong brown mottles
35 to 43 inches—grayish brown loam that has strong brown mottles

43 to 55 inches—grayish brown loam that has dark yellowish brown mottles
55 to 65 inches—brown silty clay loam that has grayish brown, dark yellowish brown, and pale brown mottles
65 to 71 inches—brown silt loam that has grayish brown and dark yellowish brown mottles

Substratum:
71 to 80 inches—brown loam

Alligator
Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 19 inches—light brownish gray clay that has strong brown mottles
19 to 29 inches—light brownish gray clay that has strong brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray, yellowish brown, and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has strong brown and dark yellowish brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—grayish brown clay loam that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Tensas—somewhat poorly drained; Alligator—poorly drained
Permeability: Very slow
Available water capacity: Tensas—high or very high; Alligator—high or moderate
Seasonal high water table: Tensas—apparent, at a depth of 1 to 3 feet from December to April in most years. Alligator—perched, at a depth of 0.5 to 2 feet during wet periods; unless water is removed by surface ditches, the surface is ponded after heavy rains, especially in winter and spring.
Shrink-swell potential: Very high
Flooding: Occasional
Content of organic matter in the surface layer: Moderate
Tilth: Tensas—fair, the surface layer is firm, can be tilled only within a fairly narrow range of moisture content, and tends to crust and pack after heavy rains; Alligator—poor, the surface layer is firm, is very sticky when wet, is hard when dry, and can be tilled only within a narrow range of moisture content.
Natural fertility: Fair
Reaction: Tensas—very strongly acid to moderately acid, except where lime has been applied, in the surface and subsurface layers and the upper part of the subsoil and strongly acid or moderately acid in the lower part of the subsoil and in the substratum; Alligator—very strongly acid or strongly acid, except where lime has been applied, in the surface and subsurface layers, very strongly acid to moderately alkaline in the subsoil below a depth of 40 inches, and neutral to moderately alkaline in the substratum
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- None

Similar soils
- Soils that have less clay than the Tensas and Alligator soils, are better drained, and are in higher ridge positions
- Soils that have less clay than the Tensas and Alligator soils and are in landscape positions similar to those of the Tensas soil or slightly higher
- Soils that are less drained than the Tensas and Alligator soils and are in lower positions

Land Use

Dominant uses: Cropland and forestland
Other uses: Pasture and hayland

Cropland
Suitability: Moderately suited
Commonly grown crops: Rice and soybeans
Management concerns:
- Wetness
- Flooding

Management measures:
- Extensive flood-control practices and intensive drainage practices are needed before these soils can be cultivated.

Pasture and hayland
Suitability: Moderately suited
Commonly grown crops: Common bermudagrass and tall fescue
Management concerns:
- Wetness
- Flooding
- Too clayey

Management measures:
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and soils in good condition.

Forestland
Suitability: Moderately suited
Potential for commercial species: Good for hardwoods
Productivity class: Fair
Management concerns:
- Wetness
- Equipment use
- Seedling mortality
- Plant competition

Management measures:
- Conventional forestland management methods are difficult to use; harvesting should be done only during the drier seasons.

Wildlife habitat
Potential to support habitat for wildlife: Tensas—fair for openland wildlife, good for forestland wildlife and wetland wildlife; Alligator—fair for openland wildlife, good for forestland wildlife and wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Not suited

Management concerns:
- Flooding
- Shrink-swell potential
- Wetness

Management measures:
- A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Not suited
Management concerns:
- Flooding
- Slow percolation
- Wetness

Management measures:
- The local Health Department can be contacted for additional guidance.

Local roads and streets
Suitability: Poorly suited
Management concerns:
- Flooding
- Very high shrink-swell potential
- Low strength

Management measures:
- Using well-compacted fill material as a road base helps to elevate roads above the flooding.

Lawns and landscaping
Suitability: Poorly suited
Management concerns:
- Flooding
- Wetness
- Too clayey

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: Tensas and Alligator—4w
Forestland ordination symbol: Tensas—4W; Alligator—6W

31—Tensas-Alligator-Urban land complex, 0 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Meander curves of flood plains and backswamp areas
Landform position: Areas of the soils and Urban land are so intermingled that mapping them separately was not practical at the selected scale.
Slope: 0 to 3 percent
Shape of areas: Determined by urban development
Size of areas: 20 to 300 acres

Composition

Tensas and similar soils: 45 percent
Alligator and similar soils: 20 percent
Urban land and similar areas: 35 percent

Typical Profile

Tensas

Surface layer:
0 to 7 inches—brown silty clay loam

Subsoil:
7 to 11 inches—brown silty clay that has strong brown mottles
11 to 43 inches—grayish brown clay loam that has strong brown mottles
43 to 55 inches—grayish brown loam that has dark yellowish brown mottles
55 to 65 inches—brown silty clay loam that has grayish brown, dark yellowish brown, and pale brown mottles
65 to 71 inches—brown silt loam that has grayish brown and dark yellowish brown mottles

Substratum:
71 to 80 inches—brown loam

Alligator

Surface layer:
0 to 4 inches—dark grayish brown clay

Subsurface layer:
4 to 7 inches—dark grayish brown clay that has yellowish brown mottles

Subsoil:
7 to 29 inches—light brownish gray clay that has strong brown mottles
29 to 52 inches—grayish brown clay that has light brownish gray, yellowish brown, and dark yellowish brown mottles
52 to 65 inches—grayish brown clay that has yellowish brown and strong brown mottles
65 to 76 inches—grayish brown clay that has yellowish brown and strong brown mottles

Substratum:
76 to 84 inches—brown clay that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Tensas—somewhat poorly drained; Alligator—poorly drained; Urban land—variable
Permeability: Very slow
Available water capacity: Tensas—high or very high; Alligator—high or moderate; Urban land—variable
Seasonal high water table: Tensas—apparent, at a depth of 1 to 3 feet from December through April in most years. Alligator—perched, at a depth of 0.5 to 2 feet in wet periods. Unless water is removed by surface ditches, the surface is ponded after heavy rains, especially in winter and spring. Urban land—variable.
Shrink-swell potential: Tensas and Alligator—very high; Urban land—variable
Flooding: Tensas and Alligator—rarely flooded due to permanent flood-control structures; Urban land—variable
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Tensas and Alligator—moderate; Urban land—variable
Tilth: Tensas and Alligator—the surface layer is firm; Urban land—variable.
Natural fertility: Tensas and Alligator—fair; Urban land—fair where not covered by construction materials

Reaction: Tensas—very strongly acid to moderately acid, except where lime has been applied, in the surface layer and the upper part of the subsoil and strongly acid to moderately alkaline in the lower part of subsoil and in the substratum; Alligator—very strongly acid to moderately acid, except where lime has been applied, in the surface and subsurface layers, very strongly acid to moderately alkaline in the subsoil below a depth of 40 inches, and neutral to moderately alkaline in the substratum; Urban land—variable
Parent material: Clayey slackwater sediments

Minor Components

Dissimilar soils
- None

Similar soils
- Soils that have less clay than the Tensas and Alligator soils, are better drained, and are in higher ridge positions
- Soils that have less clay than the Tensas and Alligator soils and are in landscape positions similar to those of the Tensas soil or slightly higher

Land Use

Dominant uses: Lawn grasses and ornamental plants
Other uses: None

Cropland
Suitability: Poorly suited
Commonly grown crops: None
Management concerns:
- Wetness
- Ponding
- Flooding

Management measures:
- None

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: None
Management concerns:
- Wetness
- Ponding
- Flooding

Management measures:
- None

Forestland
Suitability: Moderately suited
Potential for commercial species: Good for hardwood trees
Management concerns:
- Equipment use
- Seedling mortality
- Plant competition

Management measures:
- Conventional forestland management methods are difficult to use; harvesting should be done only during the drier seasons.

Wildlife habitat
Potential to support habitat for wildlife: Tensas and Alligator—fair for openland wildlife, good for forestland wildlife and wetland wildlife; Urban land—variable

Management concerns:
- None

Management measures:
- Species to be planted for habitat within residential areas should be carefully selected.

Dwellings without basements

Suitability: Tensas and Alligator—poorly suited; Urban land—variable
Management concerns:
- Wetness
- Very high shrink-swell potential in the Tensas and Alligator soils

Management measures:
- Reinforcing foundations and footings or backfilling with coarse-textured material strengthens buildings and helps to prevent the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Tensas and Alligator—poorly suited; Urban land—variable
Management concerns:
- Wetness
- Slow percolation

Management measures:
- Most areas of this map unit are serviced by a municipal sewage system. In the few areas of Tensas and Alligator soils where a septic tank absorption field is needed, enlarging the field and filling the trenches with clean, graded, gravelly material improve the performance of the system.

Local roads and streets

Suitability: Tensas and Alligator—poorly suited; Urban land—variable
Management concerns:
- Low strength
- Wetness
- Flooding

Management measures:
- Installing high-strength soil material that has good internal drainage helps to overcome the wetness and the low strength of the natural soil material.
- Using well-compacted fill material as a road base helps to elevate roads above the flooding.

Lawns and landscaping

Suitability: Poorly suited
Management concerns:
- Wetness
- Too clayey

Management measures:
- Lawn grasses, ornamental shrubs, and trees to be planted should be carefully selected.
- Ditches should be kept open to facilitate drainage and removal of surface water.
- Maintaining vegetation on ditch banks and controlling runoff from construction sites help to control erosion and sedimentation.

Interpretive Groups

Land capability classification: Tensas and Alligator—3e; Urban land—not assigned
Forestland ordination symbol: Tensas—4W; Alligator—6W; Urban land—not assigned

32—Tutwiler very fine sandy loam, 0 to 3 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Low ridges on natural levees between swales
Slope: 0 to 3 percent
Shape of areas: Elongated with irregular width
Size of areas: 10 to 50 acres

Composition

Tutwiler and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

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

Subsurface layer:
5 to 9 inches—brown very fine sandy loam

Subsoil:
9 to 26 inches—dark yellowish brown loam
26 to 32 inches—yellowish brown very fine sandy loam

Substratum:
32 to 65 inches—brown loamy very fine sand that has yellowish brown mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate or high
Seasonal high water table: Below a depth of 6 feet, if present
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Slight
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to slightly acid, except where lime has been applied, in the surface layer, subsurface layer, and subsoil; very strongly acid to moderately alkaline in the substratum
Parent material: Loamy alluvium

Minor Components

Dissimilar soils

- Dundee soils, which have more clay than the Tutwiler soil, are not as well drained, and are in lower swale positions
- Narrow, elongated areas of Tutwiler soils that have slopes of 6 to 12 percent and that border sloughs, abandoned channels, and stream courses

Similar soils

- Soils that are in landscape positions similar to those of the Tutwiler soil but have more clay

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- Wind erosion
- A weak plow pan can be slightly detrimental to root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:
- Weed encroachment

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Equipment use
- Erosion if the soil is not protected
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Well suited

Management concerns:
- None

Management measures:
- None

Septic tank absorption fields
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Local roads and streets
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Lawns and landscaping
Suitability: Well suited
Management concerns:
- None

Management measures:
- Grasses, shrubs, and trees to be planted should be carefully selected.

Interpretive Groups

Land capability classification: 1
Forestland ordination symbol: 9A

33—Tutwiler very fine sandy loam, 3 to 6 percent slopes

Setting

Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Long, narrow, low ridges between swales
Slope: 3 to 6 percent
Shape of areas: Irregular
Size of areas: 10 to 25 acres

Composition

Tutwiler and similar soils: 85 to 95 percent
Dissimilar soils: 5 to 15 percent

Typical Profile

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

Subsoil:
12 to 36 inches—dark yellowish brown loam that has yellowish brown mottles

Substratum:
36 to 52 inches—dark yellowish brown very fine sandy loam
52 to 65 inches—dark yellowish brown loamy very fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate or high
Seasonal high water table: Below a depth of 6 feet, if present
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Moderate
Content of organic matter in the surface layer: Moderate
Tilth: Good. The surface layer is very friable and easily tilled over a wide range of moisture content but tends to crust and pack after heavy rains.
Natural fertility: Good
Reaction: Very strongly acid to slightly acid in the surface layer and subsoil; very strongly acid to moderately alkaline in the substratum
Parent material: Loamy alluvium

Minor Components

Dissimilar soils
- Soils in slope break positions bordering sloughs, abandoned channels, and stream courses
- Soils that are sandy throughout

Similar soils
- Soils that are in landscape positions similar to those of the Tutwiler soil but have more clay

Land Use

Dominant uses: Cultivated crops
Other uses: Pasture, hayland, and forestland

Cropland
Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns:
- A moderate hazard of erosion
- A weak plow pan can be slightly detrimental to root penetration and the downward movement of water through the soil.

Management measures:
- Using proper row arrangement and conservation tillage, growing winter cover crops, and leaving crop residue on the surface help to control erosion and to maintain tilth, fertility, and the content of organic matter.
- If a plow pan forms, it can be broken up by subsoiling.
- Land leveling reduces the hazard of erosion and the runoff rate, improves drainage, and results in better distribution of irrigation water.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Common bermudagrass, improved bermudagrass, and tall fescue
Management concerns:
- None

Management measures:
- Using a grazing management system and properly applying fertilizer increase forage yields, improve quality, and protect the soil.

- Cool-season legumes, such as lespedeza and white clover, produce winter forage and add nitrogen to the soil but require a higher degree of management for best results.

Forestland
Suitability: Well suited
Potential for commercial species: Good for hardwoods and pine trees
Productivity class: Good
Management concerns:
- Understory plants and undesirable trees compete with desirable trees for water and nutrients.

Management measures:
- Using low-pressure (low-impact) ground equipment or using equipment only during the drier periods minimizes damage to the soil, reduces the hazard of erosion, and helps to maintain productivity.
- Forestland management practices, such as using selective thinning, removing undesirable trees and brush, and protecting the area from wildfire, increase yields.

Wildlife habitat
Potential to support habitat for wildlife: Good for openland wildlife and forestland wildlife; very poor for wetland wildlife
Management concerns:
- None

Management measures:
- Species to be planted for habitat should be carefully selected.

Dwellings without basements
Suitability: Well suited
Management concerns:
- Instability of cutbanks
- Slope

Management measures:
- None

Septic tank absorption fields
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Local roads and streets
Suitability: Well suited
Management concerns:
- None

Management measures:
- None

Lawns and landscaping
Suitability: Well suited
Management concerns:
- None

Management measures:
- Designing plantings to conform to the natural contour helps to control erosion and increases the rate of water infiltration.

Interpretive Groups

Land capability classification: 2e
Forestland ordination symbol: 9A

34—Urban land

Urban land consists of built-up areas. The original soils are so altered that they cannot be identified, or the boundaries are obscured to the extent that they can no longer be plotted accurately. The original soils formed in alluvium deposited by the ancient Ohio River and the Mississippi River. The original soils are underlain by stratified sand, silt, and clay.

Areas of this map unit are in the town of Greenwood. Some areas are in the main business district of the city. Others areas are in adjacent industrial tracts and residential neighborhoods. In about 40 percent of the acreage, buildings, streets, sidewalks, and parking lots cover the soils. In another 40 percent, mostly in areas used for lawns and as vacant lots, the soils cannot be identified because of grading and filling. The rest of the acreage is mainly Alligator, Dubbs, Dundee, and Tensas soils. A few areas have been covered and built up with several feet of rubble fill over soils adjacent to the Tallahatchie and Yazoo Rivers in Greenwood. Most areas are nearly level. In some areas, however, the slopes are as much as 4 percent.

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

Prime Farmland and Other Important Farmland

In this section, prime farmland is defined, and the soils in Leflore 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 not frequently flooded during the growing season. The slope ranges mainly from 0 to 8 percent.

In Leflore County, about 325,601 acres, or about 84 percent of the county, meets the soil requirements for prime farmland.

A recent trend in land use in some parts of the county has been the loss of some prime farmlands to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, difficult to cultivate, and usually less productive.

The map units, or soils, that make up prime farmland in Leflore County are listed in table 5. The location of each map unit is shown on the detailed soil maps. The extent of each unit is given in table 4. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units." This list does not constitute a recommendation for a particular land use.

Some soils that have a high water table and all soils that are frequently flooded during the growing season qualify as prime farmland only in areas where these

limitations have been overcome by drainage measures or flood control. If applicable, the need for these measures is indicated in the table. Onsite evaluation is necessary to determine if the limitations have been overcome by corrective measures.

Also listed in the table are map units that are considered additional “Farmland of Statewide Importance.” This farmland is an important part of the agricultural resource base in the area, but it does not meet the requirements for prime farmland. It is seasonally wet, cannot be easily cultivated, is more erodible than prime farmland, or is usually less productive than prime farmland. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

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 rangeland and forestland; 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

Richard M. Cody, conservation agronomist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the 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.

About 231,000 acres in the survey area was used for crops in 1988 (MASS, 1988). Of the total, 91,000 acres was used for cotton, 105,000 acres for soybeans, 19,200 acres for rice, 7,500 acres for grain sorghum, 300 acres for pecan orchards, and 7,000 acres for mainly wheat and oats. Very little pasture and hayland is in Leflore County.

The potential of the soils in Leflore County is good for increased production of food and fiber. Food and fiber production could be increased considerably by applying the latest crop production technology to all the cropland in the county. Historically, the soils in the county had naturally high fertility levels. Intensive cropping over time diminished the available levels of certain plant nutrients, such as nitrogen and potassium. The use of nitrogen fertilizer is widespread. This soil survey can greatly facilitate the application of this technology.

Water erosion is the major concern on nearly all of the cropland that has a slope of more than 3 percent. Water erosion is a particularly severe hazard because the loss of the surface layer is so damaging. Productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Soils that have a thin, loamy surface layer and a clayey subsoil are especially damaged if the surface layer is lost.

Erosion on farmland results in sedimentation. Control of erosion minimizes sedimentation, reduces maintenance costs for drainage systems, and improves the quality of water for fish and wildlife. Erosion-control practices provide a protective surface cover, reduce the amount of runoff, and increase the rate of water infiltration. A cropping system that keeps vegetative cover on the soil for extended periods holds soil losses to amounts that maintain the productive capacity. Tillage systems that leave crop residue on the surface help maintain humus levels, reduce the amount of runoff, help to control erosion, and conserve energy. Soil compaction is minimized if fewer trips are made over the soil. Residue management and reduced soil disturbance decrease evaporation of moisture from the soil. Structural practices, such as grade-control structures (overfall pipes), help to control erosion caused by concentrated flow. Information on erosion-control practices for each kind of soil can be obtained at the local office of the Natural Resources Conservation Service.

Drainage is a problem on most soils in Leflore County. Wetness in depressions can damage crops in areas of Alligator, Tensas, and Dundee soils that are not artificially drained. Extensive land forming or land leveling practices have been used to remove these depressions, thereby providing drainage and improving distribution of irrigation water.

Tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. Soils that have good tilth are granular and porous. Collins, Falaya, and Oaklimeter soils tend to form thick surface crusts, which reduce the rate of infiltration and increase the hazard of erosion. Dubbs, Dundee, and Tutwiler soils also form surface crusts but to a lesser degree. Alligator and Tensas soils are sticky when wet, are hard when dry, and can be effectively tilled only within a narrow range of moisture content. High-residue-producing crops, such as rice, wheat, grain sorghum, and corn, tend to increase the content of organic matter in soil and improve tilth.

Commonly grown field crops that are suited to the survey area and climate include cotton, soybeans, rice, grain sorghum, corn, and wheat. Some soils in the survey area are suited to specialty crops. The latest information on these crops can be obtained at the local office of the Cooperative Extension Service or the Natural Resources Conservation Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 6 and 7. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors.

The 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 classifications are given in tables 6 and 7. 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 land forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by numerals 1 through 7. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are not likely to erode, but they have other limitations, impractical to remove, that limit their use.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation.

Class 7 soils have very severe limitations that make them unsuitable for cultivation.

Class 8 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, 2e. 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 1 because the soils of this class have few limitations. The soils in class 5 are subject to little or no erosion, but they have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation. Class 5 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 the yields tables.

Forestland Management and Productivity

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 forestland managers planning ways to increase productivity. 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 for harvesting timber, and management concerns for producing timber. 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 feet per acre. The larger this number is, 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 *W* indicates a soil in which excessive water, either seasonal or year-round, causes a significant limitation. The letter *S* indicates a dry, sandy soil. The letter *A* indicates a soil having no significant limitations that affect forest use and management.

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 management 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 use 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 as 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.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

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 merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and

calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Understory Vegetation

Understory vegetation consists of grasses, forbs, shrubs, and other plants. If well managed, some forestland can produce enough understory vegetation to support grazing by livestock, wildlife, or both without damage to the trees.

The quantity and quality of understory vegetation vary with the kind of soil, the age and kind of trees in the canopy, the density of the canopy, and the depth and condition of the litter. The density of the canopy determines the amount of light that understory plants receive.

Table 9 shows the common names of the *characteristic vegetation* on each soil and the *composition,* by percentage of air-dry weight, of each kind of plant. The table shows the kind and percentage of understory plants expected under a canopy density that is most nearly typical of forestland in which the production of wood crops is highest.

Recreation

In tables 10 and 11, the soils of the survey area are rated according to the limitations that affect their suitability for recreation and how those limitations relate. The ratings are based on limiting 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.

The degree to which a soil is limited is expressed with a rating class and a value. Rating classes range from not limited to very limited, and are directly related to the values, which were determined using fuzzy logic. The larger the value is, the greater the limitation. The *not limited* rating class means that soil properties are generally favorable and that limitations are minor and easily overcome. The *somewhat limited* rating class means limiting features can be overcome or alleviated by planning, design, or special maintenance. The *very limited* rating class means soil properties are unfavorable, and limitations can only be offset 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 and interpretations for dwellings without basements and for local roads and streets.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have gentle slopes and are not wet or subject to flooding during the period of use. The surface absorbs rainfall readily but remains firm and is not dusty when dry. Strong slopes 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 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 firm after rains and is not dusty when dry. If grading is needed, the depth of the soil over dense clay or sand 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, are not subject to flooding more than once a year during the period of use, and have moderate slopes.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

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

Wildlife Habitat

Richard Herring, wildlife biologist, Natural Resources Conservation Service, helped prepare this section.

Leflore County has approximately 305,200 acres of cropland and pastureland and 58,600 acres of forestland and wetland. Diverse flood-plain features and land use provide habitat for many species of wildlife. Large areas in the eastern part of the county are ancient river-meander scars that have oxbow lakes and narrow ridges and that provide excellent habitat for white-tailed deer, wild turkey, and other species. These areas are largely undeveloped due to frequent flooding. Demand for quality hunting areas is high, and many tracts of forestland are leased by hunting clubs. Numerous oxbow lakes and streams provide good to excellent fishing.

The major crops grown in the county include soybeans, cotton, rice, corn, grain sorghum, and winter wheat. Crop residue and wasted grain provide important food sources for game and nongame species. Many of the lower crop fields are flooded during the winter, thereby making lost grain and invertebrates available to wintering waterfowl. Erosion-control practices that are beneficial to wildlife include conservation tillage, field borders, and filter strips.

Hardwoods are located in backswamps and along major streams and provide good to excellent wildlife habitat. Tree species in these areas include water oak, overcup oak, swamp chestnut oak, Nuttall oak, ash, pecan, water hickory, and bald cypress. In swamps, the bald cypress and tupelo gum are dominant. Wetland areas in backswamps and along major streams provide excellent habitat for migrating waterfowl, wood ducks, wading birds, furbearers, reptiles, and amphibians. One threatened species that can be found in Leflore County is the American alligator.

Oxbow lakes, brakes, sloughs, rivers, and streams provide areas that can be fished for largemouth bass, bluegill, sunfish, channel catfish, crappie, and other species (fig. 5).

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

Figure 5--Typical landscape and ponding in an area of Dowling muck.

vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

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 includes bobwhite quail, pheasant, 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 includes wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

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, muskrat, mink, and beaver.

In tables 12a through 12d, 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 ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. *Not limited* indicates that the soil has features that are very favorable for the specified use. Habitat is easily established, improved, or maintained. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The

limitations are minor and can be easily overcome. Habitat can be established, improved, or maintained. *Moderately limited* indicates that the soil has features that are moderately favorable for the specified use. Habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. *Limited* indicates that the soil has one or more features that are significant limitations for the specified use. Habitat is difficult to create, improve, or maintain in most places. Management is difficult and must be very intensive. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. Habitat is usually impractical or impossible to create, improve, or maintain. Management would be very difficult, and unsatisfactory results can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The numerical ratings are shown as decimal fractions ranging from 0.00 to 1.00. Limitation classes are assigned as follows:

Not limited	0.00
Slightly limited	0.01 to 0.30
Moderately limited	0.31 to 0.60
Limited	0.61 to 0.99
Very limited	1.00

The numerical ratings used to express the severity of individual limitations indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation.

Limitation class terms and numerical ratings are shown for each limiting soil feature listed. As many as five soil features may be listed for each component. The overall limitation class for the component is based on the most severe limitation.

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 also are considerations. Selection should be made from a list of locally adapted species.

Domestic 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 also are considerations. Selection should be made from a list of locally adapted species.

Upland 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 also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Upland shrubs and vines are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs and vines are depth of the root zone, available water capacity, salinity, and soil moisture. Selection should be made from a list of locally adapted species.

Upland deciduous 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, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing

shrubs that are suitable for planting on soils rated good are Russian-olive, autumn-olive, and crabapple.

Upland coniferous trees 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, spruce, fir, cedar, and juniper.

Upland mixed deciduous-conifer trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, browse, seeds, and foliage. Soil properties and features that affect the growth of these trees are depth of the root zone, available water capacity, and wetness. Selection should be made from a list of locally adapted species.

Riparian herbaceous plants are annual and perennial native or naturally established grasses and forbs that grow on moist or wet sites. Soil properties and features affecting riparian herbaceous plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

Riparian shrubs, vines, and trees are bushy woody plants and trees that grow on moist or wet sites. Soil properties and features affecting these plants are surface texture, wetness, flooding, ponding, and surface stones. Selection should be made from a list of locally adapted species.

Freshwater wetland plants are grasses, forbs, and shrubs that are adapted to wet soil conditions. The soils that are suited to this habitat generally occur adjacent to springs, seeps, depressions, bottomlands, marshes, or backwater areas of flood plains. Most areas are ponded for some period of time during the year. Soil properties and features affecting these plants are surface texture, wetness, ponding, and soil reaction. Selection should be made from a list of locally adapted species.

Engineering

Bobby J. Massey, agricultural engineer, Natural Resources Conservation Service, helped prepare this section.

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, 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

Tables 13 and 14 shows the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping. Soils are rated *not limited* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *somewhat limited* 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 *very limited* 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 very limited.

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 a cemented pan, 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 a cemented pan, 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, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are

based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to a cemented pan 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.

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 a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials 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

Tables 15 and 16 show the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. Soils are rated *not limited* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *somewhat limited* 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 *very limited* 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 *not limited* indicates that soil properties and site features are favorable for the use and that good performance and low maintenance can be expected; *somewhat limited* 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 *very limited* 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 a cemented pan, and flooding affect absorption of the effluent. Large stones and a cemented pan 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 are 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 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 cemented pans 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 a cemented pan, depth to a water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium 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 a cemented pan or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. 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

Tables 17 and 18 give information about the soils as a source of reclamation material, roadfill, topsoil, sand, and gravel. 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.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical

sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the 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 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.

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, 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.

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 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 and siltstone, are not considered to be sand and gravel.

Water Management

Tables 19 and 20 give information on the soil properties and site features that affect water management. Table 19 gives the degree and kind of soil limitations for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. Table 20 gives the restrictive features that affect each soil for grassed waterways and surface drains; terraces and diversions; and tile drains and underground outlets. Soils are rated *not limited* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *somewhat limited* 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 *very limited* 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.

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 other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

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

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

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

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

water table, permeability of the aquifer, and the salinity of the soil. The content of large stones influences the ease of excavation.

Grassed waterways and surface drains 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 and surface drains. A hazard of wind erosion, a low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

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.

Tile drains and underground outlets are used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to the soil in its undisturbed condition and do not include consideration of current land use. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains.

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.

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 are used to verify field observations and 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 Properties

Table 21 gives estimates of the engineering classification and of the range of 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 (fig. 6). “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 (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to 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.

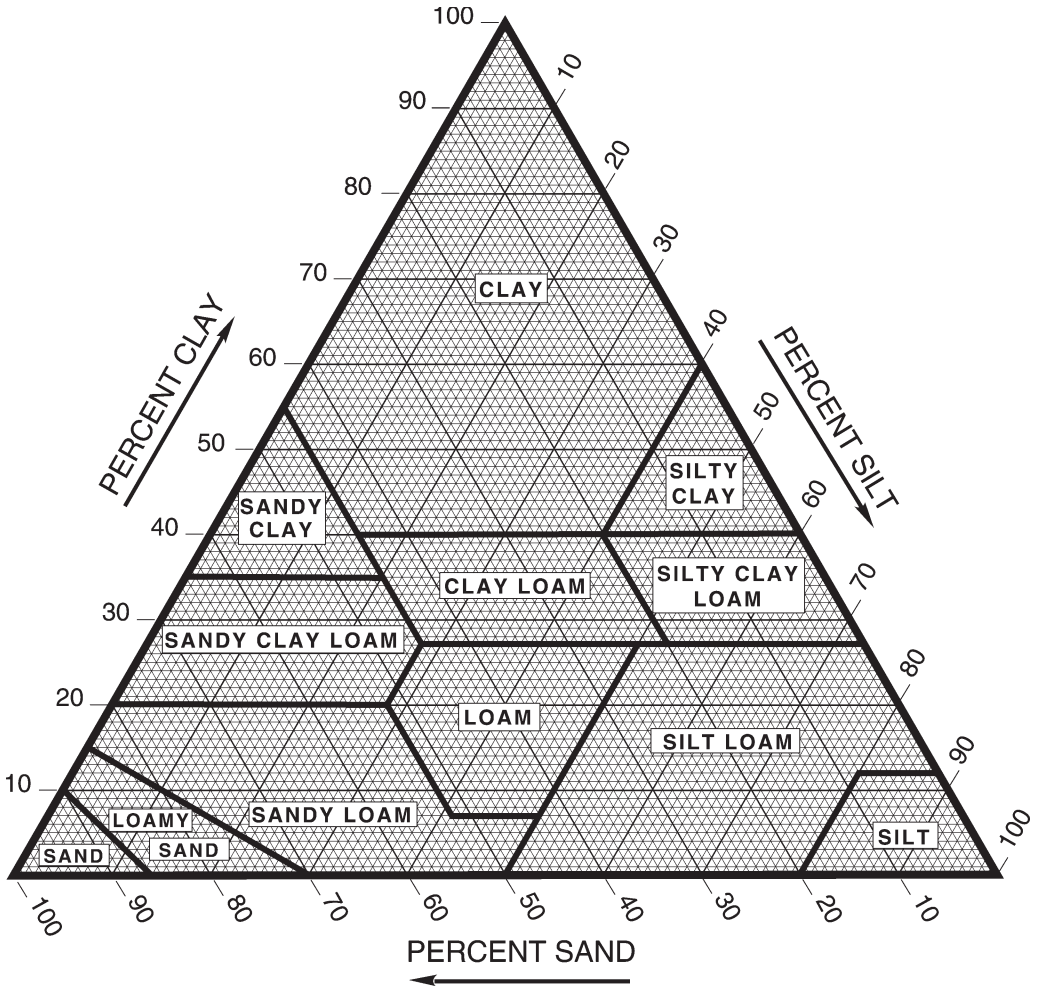

Figure 6.—The percentage of sand, silt, and clay in the basic textural classes.

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.

Rock fragments larger than 3 inches and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of

soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical and Chemical Properties

Tables 22 and 23 show 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.

Depth to the upper and lower boundaries of each layer is indicated.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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.

Saturated Hydraulic Conductivity refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement when the soil is saturated. The estimates are indicated in micrometers per second (µm/sec) in the column *Saturated Hydraulic Conductivity* and in inches per hour in the column *Permeability.* 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.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume

change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil. Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is *low* if the soil has a linear extensibility of less than 3 percent; *moderate* if 3 to 6 percent; *high* if 6 to 9 percent; and *very high* if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained 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.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. *Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size. *Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity 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.

Risk of Corrosion

Table 24 gives estimates of risk of corrosion. The estimates are used in land use planning that involves engineering considerations.

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.

Water Features

Table 25 gives estimates of various 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.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are *negligible, very low, low, medium, high,* and *very high.*

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 25 indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

The table gives the frequency and duration of both ponding and flooding. Frequency and duration are estimated for the whole year rather than for individual months. Absence of an entry indicates that the feature is not a concern or that the data were not estimated.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding, 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. 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 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 flooding is 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.

Classification of the Soils

In this section, the soil series recognized in the survey area are described, the current system of classifying soils is described, and the soils in the area are classified according to the current system.

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). 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 26 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol.* An example is Alfisol.

SUBORDER. Each order is divided into suborders, primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udalf (*Ud,* meaning humid, plus *alf,* from Alfisol).

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

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic 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 Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-silty, mixed, active, thermic Typic Hapludalfs.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. There can be some variation in the texture of the surface layer or of the substratum within a series. An

example is the Tutwiler series, which consists of coarse-silty, mixed, active, thermic Typic Hapludalfs.

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" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). 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."

Alligator Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow
Parent material: Clayey alluvium
Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Backswamps, brakes, sloughs, depressions, and lower positions on natural levees
Slope: 0 to 3 percent
Taxonomic class: Very fine, smectitic, thermic Chromic Dystraquerts

Commonly Associated Soils

The Alligator series in Leflore County is commonly associated on the landscape with Dowling and Tensas soils.

- The very poorly drained Dowling soils are in depressions.
- The somewhat poorly drained Tensas soils are in slightly higher positions than the Alligator soils.

Typical Pedon

Alligator clay, 0 to 1 percent slopes; about 7 miles west of Itta Bena; 1 mile north of U.S. Highway 82; SW¼NE¼ sec. 30, T. 19 N., R. 2 W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) clay; weak and moderate medium granular structure; firm, sticky and plastic; common fine and medium roots; strongly acid; abrupt wavy boundary.

Apd—4 to 7 inches; dark grayish brown (10YR 4/2) clay; massive in place, parts to moderate medium angular blocky structure; very firm, very sticky and very plastic; common medium distinct yellowish brown (10YR 5/6) iron accumulations; common fine roots in concentrated masses in cracks; ¼- to ½-inch-wide pockets and old cracks filled with soil material from the Ap horizon; yellowish brown stains along cracks; slightly acid; abrupt wavy boundary.

Bg—7 to 19 inches; light brownish gray (10YR 6/2) clay; moderate fine and medium angular blocky structure; very firm, very sticky and very plastic; many medium

and coarse distinct yellowish brown (10YR 5/6) iron accumulations; common fine roots; few fine black concretions; very strongly acid; gradual wavy boundary.

Bssg1—19 to 29 inches; light brownish gray (10YR 6/2) clay; wedge-shaped aggregates that part to weak and moderate medium angular blocky structure; very firm, very sticky and very plastic; common medium distinct yellowish brown (10YR 5/6) iron accumulations; few fine roots; cracks intersecting slickensides; very strongly acid; gradual wavy boundary.

Bssg2—29 to 52 inches; grayish brown (2.5Y 5/2) clay; wedge-shaped aggregates that part to moderate fine and medium angular blocky structure; very firm, very sticky and very plastic; few fine roots; common coarse intersecting slickensides; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common medium distinct dark yellowish brown (10YR 4/4) iron accumulations; strongly acid; gradual wavy boundary.

Bssyg1—52 to 65 inches; grayish brown (2.5Y 5/2) clay; wedge-shaped aggregates that part to moderate fine and medium angular blocky structure; very firm, very sticky and very plastic; few fine prominent strong brown (7.5YR 4/6) and many medium distinct dark yellowish brown (10YR 4/4) iron accumulations; many fine roots; common intersecting slickensides; common fine and medium gypsum crystals in seams; slightly alkaline; gradual wavy boundary.

Bssyg2—65 to 76 inches; grayish brown (2.5Y 5/2) clay; weak coarse prismatic structure parting to weak medium subangular blocky; firm, very sticky and very plastic; few medium slickensides; common fine gypsum crystals; many medium distinct yellowish brown (10YR 5/4) and few strong brown (7.5YR 5/6) iron accumulations; slightly alkaline; gradual wavy boundary.

Cg—76 to 84 inches; grayish brown (2.5Y 5/2) clay loam; massive; common medium distinct yellowish brown (10YR 5/6) and common medium prominent yellowish red (5YR 4/6) iron accumulations; slightly alkaline.

Range in Characteristics

Thickness of the solum: More than 60 inches

Reaction: Very strongly acid or strongly acid in the A horizon and the upper part of the B horizon, except where lime has been applied; very strongly acid to moderately alkaline in the lower part of the Bss horizon and in the BC horizon, where present; neutral to moderately alkaline in the C horizon

Control section: Averages 60 to 85 percent clay

Other distinctive features: When dry, the soils have deep, wide cracks that are 2 to more than 3 feet in depth and that form a roughly polygonal pattern on the surface. The polyhedrons formed by the cracks range from 1 foot to more than 2 feet across. Intersecting slickensides are within a depth of 40 inches.

A horizon:

Color—hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 or 3
Texture—clay

Bg horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay
Redoximorphic features—few to many iron accumulations in shades of brown or yellow
Other distinctive features—few pressure faces and slickensides in some pedons

Bssg and Bssyg horizons and, where present, BCss horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 or less
Texture—silty clay or clay
Redoximorphic features—few to many iron depletions and accumulations in shades of gray, brown, and yellow

Other distinctive features—few to many pressure faces and slickensides; and, in some pedons, few or common pockets and veins of gypsum crystals and few or common concentrations of calcium carbonate

Cg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—silty clay loam, clay loam, or loam
Redoximorphic features—few to many iron depletions and accumulations in shades of gray, brown, yellow, and red

Arkabutla Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Silty alluvium
Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Meanders of active streams and lower positions on alluvial aprons
Slope: 0 to 2 percent
Taxonomic class: Fine-silty, mixed, active, acid, thermic Fluvaquentic Endoaquepts

Commonly Associated Soils

The Arkabutla series in Leflore County is commonly associated on the landscape with Bruno, Collins, and Falaya soils.

- The excessively drained Bruno soils are on flood plains along streams.
- The moderately well drained Collins soils are in slightly higher positions than the Arkabutla soils.
- The somewhat poorly drained Falaya soils are in positions similar to those of the Arkabutla soils.

Typical Pedon

Arkabutla silty clay loam, 0 to 2 percent slopes; about 0.7 mile north of Sand Creek levee on Mississippi State Highway 7, about 0.7 mile east of the highway on a county road, 0.6 mile north of the county road on a field road, and 200 feet west into a field; SE$^1/_4$SW$^1/_4$ sec. 29, T. 20 N., R. 2 E.

Ap—0 to 7 inches; brown (10YR 4/3) silty clay loam; weak fine granular structure; firm; common fine roots; moderately acid; clear smooth boundary.
Bw—7 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; firm; common medium distinct light brownish gray (10YR 6/2) iron depletions and common fine distinct brown (7.5YR 5/4) iron accumulations; common fine roots; few fine strong brown (7.5YR 5/6) iron oxide coats in pores; strongly acid; gradual smooth boundary.
Bg1—15 to 23 inches; grayish brown (10YR 5/2) silty clay loam; weak medium subangular blocky structure; firm; common medium distinct yellowish brown (10YR 5/4) and common fine distinct strong brown (7.5YR 5/6) iron accumulations; few fine roots; few very fine tubular pores; common angular soft masses of iron-manganese; strongly acid; gradual smooth boundary.
Bg2—23 to 54 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium distinct strong brown (7.5YR 5/6) iron accumulations; common very fine tubular pores; common medium angular soft masses of iron-manganese; strongly acid; gradual wavy boundary.

Bg3—54 to 62 inches; grayish brown (10YR 5/2) loam; weak medium subangular blocky structure; friable; common fine and medium distinct strong brown (7.5YR 4/6) iron accumulations; common very fine tubular pores; strongly acid.

Range in Characteristics

Thickness of the solum: More than 40 inches
Reaction: Very strongly acid or strongly acid in all layers, except where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3
Texture—silt loam or silty clay loam

Bw horizon:
Color—hue of 10YR, value of 5, and chroma of 3 to 6; variegated
Texture—silt loam or silty clay loam
Redoximorphic features—few or common iron depletions and accumulations in shades of gray and brown

Bg horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 or less
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—iron accumulations in shades of brown

Askew Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges; swales
Slope: 0 to 3 percent
Taxonomic class: Fine-silty, mixed, active, thermic Aquic Hapludalfs

Commonly Associated Soils

The Askew series in Leflore County is commonly associated on the landscape with Beulah, Dubbs, Dundee, and Tensas soils.

- The somewhat excessively drained Beulah soils and the well drained Dubbs soils are in slightly higher positions than the Askew soils.
- The somewhat poorly drained Dundee soils are in slightly lower positions than the Askew soils.
- The somewhat poorly drained Tensas soils are in lower positions than the Askew soils and in swales.

Typical Pedon

Askew silt loam, 1 to 3 percent slopes; 0.5 mile south of Second Holly Grove Church; 0.4 mile south of a farm headquarters; about 95 feet west of a field road; SW$^1/_4$ SW$^1/_4$SE$^1/_4$ sec. 5, T. 20 N., R. 2 E.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; few very fine roots; common very fine tubular pores; strongly acid; abrupt smooth boundary.
BA—7 to 13 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent brown

(10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common medium faint brown (10YR 5/3) iron accumulations; few very fine roots; few very fine tubular pores; strongly acid; clear smooth boundary.

Bt1—13 to 28 inches; brown (10YR 5/3) loam; moderate medium subangular blocky structure; friable; common medium distinct dark yellowish brown (10YR 4/4) iron accumulations and common fine faint light brownish gray (10YR 6/2) iron depletions; few very fine roots; common very fine and fine tubular pores; few faint clay films on faces of peds; few fine rounded soft masses of iron-manganese; strongly acid; gradual wavy boundary.

Bt2—28 to 37 inches; brown (10YR 5/3) fine sandy loam; weak medium subangular blocky structure; friable; common medium distinct dark yellowish brown (10YR 4/4) iron accumulations and common fine faint light brownish gray (10YR 6/2) iron depletions; few very fine roots; common very fine tubular pores; few faint clay films on faces of peds; few fine rounded soft masses of iron-manganese; strongly acid; gradual smooth boundary.

2BC—37 to 49 inches; brown (10YR 5/3) fine sandy loam; massive; friable; common medium distinct dark yellowish brown (10YR 4/4) iron accumulations and common fine faint light brownish gray (10YR 6/2) iron depletions; few fine rounded soft masses of iron-manganese; strongly acid; clear smooth boundary.

2Cg—49 to 78 inches; light brownish gray (10YR 6/2) sandy loam; massive; firm, moderately sticky and moderately plastic; common medium distinct yellowish brown (10YR 5/6) iron accumulations; few fine rounded soft masses of iron-manganese; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Reaction: Strongly acid or moderately acid in the Ap and BA horizons, except for the surface layer where lime has been applied; very strongly acid to slightly acid in the Bt, 2BC, and 2Cg horizons

Ap horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 2, 3, or 4
- Texture—silt loam

BA horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
- Texture—silt loam or loam
- Redoximorphic features—common iron accumulations in shades of brown

Bt horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 3, 4, or 6
- Texture—loam or fine sandy loam
- Redoximorphic features—few or common iron depletions and accumulations in shades of brown, yellow, and gray

2BC horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 3, 4, or 6
- Texture—loam, sandy loam, or fine sandy loam
- Redoximorphic features—few or common iron depletions and accumulations in shades of brown, yellow, and gray

2C or 2Cg horizon:
- Color—hue of 10YR, value of 4 to 6, and chroma of 2, 3, 4, or 6
- Texture—sandy loam, loamy sand, or sand
- Redoximorphic features—few or common iron accumulations in shades of brown and yellow

Beulah Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Parent material: Loamy and sandy sediments
Landscape: Southern Mississippi River Valley
Landform: Meander curves on flood plains
Landform position: Low ridges and higher positions on natural levees
Slope: 0 to 5 percent
Taxonomic class: Coarse-loamy, mixed, active, thermic Typic Dystrudepts

Commonly Associated Soils

The Beulah series in Leflore County is commonly associated on the landscape with Askew, Dubbs, Dundee, and Tutwiler soils.

- The moderately well drained Askew soils are in slightly higher positions than the Beulah soils.
- The well drained Dubbs and Tutwiler soils are in positions similar to those of the Beulah soils.
- The somewhat poorly drained Dundee soils are in lower positions than the Beulah soils and in swales.

Typical Pedon

Beulah fine sandy loam, 1 to 5 percent slopes; about 40 feet northwest of a field road; east of telephone transmission line; NE¼NE¼ sec. 8, T. 20 N., R. 1 W.

Ap1—0 to 8 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; few fine roots; strongly acid; abrupt smooth boundary.

Ap2—8 to 14 inches; dark yellowish brown (10YR 4/4) fine sandy loam; few fine faint brown (10YR 5/3) iron accumulations; weak medium subangular blocky structure; friable; few fine roots; strongly acid; abrupt smooth boundary.

Bw1—14 to 27 inches; yellowish brown (10YR 5/4) fine sandy loam; few fine faint brown (10YR 5/3) iron accumulations; weak medium subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.

Bw2—27 to 38 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; friable; moderately acid; gradual smooth boundary.

C—38 to 64 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium distinct brown (10YR 5/3) and few fine distinct strong brown (7.5YR 5/6) iron accumulations; massive; very friable, nonsticky; neutral.

Range in Characteristics

Thickness of the solum: 25 to 50 inches
Reaction: Strongly acid or moderately acid in the Ap and B horizon, except for the surface layer where lime has been applied; strongly acid to neutral in the C horizon

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—fine sandy loam

Bw horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 4 to 6
Texture—loam or fine sandy loam

Redoximorphic features (where present)—few or common iron accumulations in shades of brown

C horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam, loamy sand, or sand
Redoximorphic features—few or common iron accumulations in shades of brown

Bruno Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy alluvium
Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Natural levees
Slope: 0 to 2 percent
Taxonomic class: Sandy, mixed, thermic Typic Udifluvents

Commonly Associated Soils

The Bruno series in Leflore County is commonly associated on the landscape with Collins, Falaya, and Silverdale soils.

- The moderately well drained Collins soils and somewhat poorly drained Falaya soils are in higher positions than the Bruno soils.
- The moderately well drained Silverdale soils are in positions that are more concave than those of the Bruno soils.

Typical Pedon

Bruno loamy sand, 0 to 2 percent slopes, occasionally flooded; 1 mile east of Mississippi State Highway 7 on the south levee along Sand Creek, about 200 feet south of the levee into a field along a field road; SE¼NE¼ sec. 6, T. 19 N., R. 2 E.

Ap—0 to 12 inches; dark grayish brown (10YR 4/2) loamy sand; single grained; loose; common fine roots; strongly acid; abrupt smooth boundary.
C1—12 to 28 inches; dark yellowish brown (10YR 4/4) sand; single grained; loose; bedding planes with strata of silt loam and very fine sandy loam; few fine roots; strongly acid; gradual smooth boundary.
C2—28 to 65 inches; light brownish gray (10YR 6/2) sand; single grained; loose; bedding planes throughout with thin strata of loamy very fine sand and silt loam; moderately acid.

Range in Characteristics

Thickness of the solum: 3 to 12 inches
Thickness of underlying soil material: 60 inches or more
Reaction: Strongly acid to slightly alkaline, except for the surface layer where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2, 3, or 4
Texture—loamy sand

C horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2, 3, or 4
Texture—sand with thin strata and lenses of silt loam and very fine sandy loam

Collins Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Silty alluvium
Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Alluvial aprons
Slope: 0 to 2 percent
Taxonomic class: Coarse-silty, mixed, active, acid, thermic Aquic Udifluvents

Commonly Associated Soils

The Collins series in Leflore County is commonly associated on the landscape with Arkabutla, Falaya, and Oaklimeter soils.

- The somewhat poorly drained Arkabutla and Falaya soils are in slightly lower positions than the Collins soils.
- The moderately well drained Oaklimeter soils are in positions similar to those of the Collins soils.

Typical Pedon

Collins silt loam, 0 to 2 percent slopes; 1.8 miles southeast of the intersection of Mississippi State Highway 7 and the levee along Big Sand Creek, 0.25 mile south of the levee on a field road, and about 50 feet east of the field road; northwest corner of SW¼SE¼ sec. 5, T. 19 N., R. 2 E.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; very friable; few fine roots; very strongly acid; abrupt smooth boundary.

C1—7 to 22 inches; 35 percent yellowish brown (10YR 5/4), 35 percent dark yellowish brown (10YR 4/4), and 30 percent light brownish gray (10YR 6/2) silt loam iron depletions; massive; friable; many fine bedding planes; few fine iron-manganese concretions; strongly acid; clear smooth boundary.

C2—22 to 33 inches; yellowish brown (10YR 5/4) silt; massive; friable; common medium distinct dark yellowish brown (10YR 4/6) iron accumulations and common medium distinct light brownish gray (10YR 6/2) iron depletions; many bedding planes; few fine iron-manganese concretions; strongly acid; clear smooth boundary.

C3—33 to 60 inches; grayish brown (10YR 5/2) silt; massive; friable; common medium distinct dark yellowish brown (10YR 4/6) iron accumulations and common medium distinct light brownish gray (10YR 6/2) iron depletions; many bedding planes; few fine iron-manganese concretions; strongly acid; gradual smooth boundary.

Cg—60 to 70 inches; light olive brown (2.5Y 5/3) silty clay loam; massive; firm; few fine distinct yellowish brown (10YR 5/6) iron accumulations; many bedding planes; very strongly acid.

Range in Characteristics

Thickness of the solum: 3 to 91 inches
Thickness of underlying soil material: More than 60 inches
Depth to contrasting material: Buried soils are found at depths of more than 35 inches in some pedons
Reaction: Strongly acid in all horizons, except where lime has been applied

Ap horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—silt loam

C horizon (upper part):
Color—hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 2 to 6; variegated
Texture—silt, silt loam, or very fine sandy loam
Redoximorphic features—few or common iron depletions and accumulations in shades of gray, yellow, and brown within a depth of 20 inches

C horizon (lower part):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1, 2, or 3
Texture—silt, silt loam, silty clay loam, or very fine sandy loam
Redoximorphic features—few or common iron depletions and accumulations in shades of gray and brown

Dowling Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Very slow
Parent material: Clayey alluvium
Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Depressions, sloughs, old oxbows, and brakes
Slope: Less than 1 percent
Taxonomic class: Very-fine, smectitic, nonacid, thermic Vertic Endoaquepts

Commonly Associated Soils

The Dowling series in Leflore County is commonly associated on the landscape with Alligator and Tensas soils.

- The poorly drained Alligator soils and somewhat poorly drained Tensas soils are in slightly higher positions than the Dowling soils and are not covered by water most of the year.

Typical Pedon

Dowling muck; about 3 miles north of the junction of U.S. Highway 82 and Mississippi State Highway 7, about 0.1 mile northwest of Mississippi State Highway 7, about 250 feet north of a paved county road into a woods, in a ponded area; NW1/4SW1/4 sec. 31, T. 20 N., R. 2 E.

Oe—0 to 4 inches; very dark gray (10YR 3/1) muck; massive; about 40 percent decomposing herbaceous fibers and fine roots, 30 percent wood fragments, and 30 percent mineral matter; slightly acid; clear smooth boundary.
A—4 to 6 inches; dark grayish brown (10YR 4/2) mucky clay; massive; sticky and plastic; many fine and medium roots; about 15 percent decomposing coarse fibers and woody material; slightly acid; gradual wavy boundary.
Bg1—6 to 18 inches; dark gray (5Y 4/1) clay; moderate medium subangular blocky structure; very sticky and very plastic; common coarse prominent yellowish brown (10YR 5/6) iron accumulations; common medium and few coarse roots; slightly acid; clear wavy boundary.
Bg2—18 to 37 inches; gray (5Y 6/1) clay; moderate medium subangular blocky structure; very sticky and very plastic; common fine prominent strong brown (7.5YR 5/6) iron accumulations; few fine and medium soft masses of iron-manganese; slightly acid; clear wavy boundary.

Cg—37 to 58 inches; gray (5Y 5/1) clay; massive; very sticky and very plastic; few medium distinct olive (5Y 5/4) iron accumulations; slightly acid.

Range in Characteristics

Thickness of the solum: 40 to 80 inches
Reaction: Slightly acid or neutral in the upper part of solum; slightly acid to slightly alkaline in the lower part of solum; slightly acid or neutral in the substratum

Oe horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 2 or less; or neutral in hue and value of 2 to 4
Texture—muck

A horizon:
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 or 2
Texture—mucky clay

Bg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1
Texture—clay
Redoximorphic features—common iron accumulations in shades of brown and yellow

Cg horizon:
Color—hue of 5Y, 5GY, 5GB, or 5G, value of 5, and chroma of 1 or less; or neutral in hue and value of 5
Texture—clay or silty clay
Redoximorphic features—few to many iron accumulations in shades of brown, olive, and red

Dubbs Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains or low terraces
Landform position: Low ridges on the higher parts of the landscape
Slope: 0 to 7 percent
Taxonomic class: Fine-silty, mixed, active, thermic Typic Hapludalfs

Commonly Associated Soils

The Dubbs series in Leflore County is commonly associated on the landscape with Askew, Beulah, Dundee, Tensas, and Tutwiler soils.

- The moderately well drained Askew soils are in slightly lower positions than the Dubbs soils.
- The somewhat excessively drained Beulah soils and well drained Tutwiler soils are in positions similar to those of the Dubbs soils.
- The Dundee soils are in lower positions than the well drained Dubbs soils.
- The Tensas soils are somewhat poorly drained and are in lower positions than the Dubbs soils.

Typical Pedon

Dubbs loam, 0 to 1 percent slopes; about 15 feet north of an air strip; 250 feet southeast of a county road; SE¼SE¼ sec. 29, T. 18 N., R. 2 W.

Ap—0 to 7 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; common fine roots; moderately acid; clear smooth boundary.
Bt1—7 to 23 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common medium faint dark brown (10YR 3/3) clay films on faces of peds; few fine pores; strongly acid; clear smooth boundary.
Bt2—23 to 36 inches; dark yellowish brown (10YR 4/4) loam; few fine faint light yellowish brown (10YR 6/4) iron accumulations; moderate medium subangular blocky structure; firm; few fine roots; few fine and medium faint brown (10YR 4/3) clay films on faces of peds and in root channels; few fine pores; strongly acid; gradual smooth boundary.
BC—36 to 52 inches; brown (10YR 4/3) very fine sandy loam; common medium faint brown (10YR 5/3) iron accumulations; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on sand grains; strongly acid; gradual smooth boundary.
C—52 to 75 inches; brown (10YR 4/3) fine sandy loam; common medium distinct grayish brown (10YR 5/2) iron depletions; massive; friable; few fine roots; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 60 inches
Reaction: Strongly acid or moderately acid, except for the surface layer where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2, 3, or 4
Texture—loam

Bt and BC horizons:
Color—hue of 10YR, value of 4 to 6, and chroma of 3, 4, or 6
Texture—loam, silt loam, or, in a few places, very fine sandy loam in the lower part of the horizon
Redoximorphic features (where present)—few or common iron depletions and accumulations in shades of brown and gray in the lower part of the horizon

C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2, 3, or 4
Texture—silt loam, loam, loamy very fine sand, or fine sandy loam
Redoximorphic features (where present)—few or common iron depletions in shades of brown, gray, or yellow

Dundee Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Parent material: Loamy alluvium
Landscape: Southern Mississippi River Valley
Landform: Meander curves and natural levees on flood plains
Landform position: Swales and lower positions on natural levees
Slope: 0 to 3 percent
Taxonomic class: Fine-silty, mixed, active, thermic Typic Endoaqualfs

Commonly Associated Soils

The Dundee series in Leflore County is commonly associated on the landscape with Askew, Beulah, Dubbs, Tutwiler, and Tensas soils.

- The moderately well drained Askew soils are in slightly higher positions than the Dundee soils.
- The somewhat excessively drained Beulah soils, well drained Dubbs soils, and well drained Tutwiler soils are in higher positions than the Dundee soils.
- The somewhat poorly drained Tensas soils are in positions similar to those of the Dundee soils.

Typical Pedon

Dundee loam, 0 to 1 percent slopes; NE1/4NE1/4SW1/4 sec. 13, T. 18 N., R. 1 W.

Ap—0 to 8 inches; brown (10YR 4/3) loam; moderate fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.

B/A—8 to 16 inches; 90 percent grayish brown (10YR 5/2) and 10 percent brown (10YR 4/3) loam; weak medium subangular blocky structure; firm, sticky and plastic; common medium distinct yellowish brown (10YR 5/6) iron accumulations; few very fine roots; very strongly acid; clear smooth boundary.

Btg1—16 to 26 inches; dark grayish brown (10YR 4/2) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm, sticky and plastic; common medium distinct strong brown (7.5YR 5/6) iron accumulations and few fine faint grayish brown (10YR 5/2) iron depletions; few very fine roots; common very fine and fine tubular pores; common distinct clay films on faces of peds; few medium rounded iron-manganese concretions; very strongly acid; gradual smooth boundary.

Btg2—26 to 38 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; common medium distinct dark yellowish brown (10YR 4/6) iron accumulations and common medium faint light brownish gray (10YR 6/2) iron depletions; few very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; few medium rounded iron-manganese concretions; strongly acid; gradual smooth boundary.

BCg—38 to 55 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; common dark yellowish brown (10YR 4/6) iron accumulations; few very fine tubular pores; few medium rounded iron-manganese concretions; moderately acid; gradual smooth boundary.

2Cg—55 to 70 inches; grayish brown (10YR 5/2) silt loam; massive; friable; common coarse distinct dark yellowish brown (10YR 4/6) iron accumulations; few medium irregular soft masses of iron-manganese; neutral.

Range in Characteristics

Thickness of the solum: 30 to more than 60 inches

Reaction: Very strongly acid to moderately acid in the Ap, B/A, and BC horizons, except for the surface layer where lime has been applied; neutral to very strongly acid in the C horizon

Ap horizon:

Color—hue of 10YR, value of 3 to 5, and chroma of 2
Texture—loam

B/A horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 2
Texture—loam or silt loam

Btg horizon:

Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2
Texture—loam, clay loam, silty clay loam, or silt loam
Redoximorphic features—few or common iron depletions and accumulations in shades of brown and gray

BCg and 2Cg horizons:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—loam, sandy clay loam, or silt loam
Redoximorphic features—common iron accumulations in shades of brown and yellow

Falaya Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Silty alluvium
Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Flood plains along perennial streams
Slope: 0 to 2 percent
Taxonomic class: Coarse-silty, mixed, active, acid, thermic Aeric Fluvaquents

Commonly Associated Soils

The Falaya series in Leflore County is commonly associated on the landscape with Arkabutla, Collins, and Oaklimeter soils.

- The somewhat poorly drained Arkabutla soils and moderately well drained Oaklimeter soils are in positions similar to those of the Falaya soils.
- The moderately well drained Collins soils are in slightly higher positions than the Falaya soils.

Typical Pedon

Falaya silt, 0 to 2 percent slopes, occasionally flooded; NW1/4SE1/4 sec. 32, T. 20 N., R. 2 E.

Ap—0 to 11 inches; brown (10YR 4/3) silt; weak fine granular structure; friable; few fine roots; slightly acid.
Bw1—11 to 16 inches; brown (10YR 4/3) silt loam; weak medium platy structure; friable; common medium distinct light brownish gray (10YR 6/2) iron depletions; few fine roots; very strongly acid; abrupt smooth boundary.
Bw2—16 to 30 inches; brown (10YR 5/3) silt; weak coarse prismatic structure; friable; many medium distinct grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/4) iron accumulations; few fine roots; common medium soft masses of iron-manganese; very strongly acid; clear wavy boundary.
Cg1—30 to 51 inches; grayish brown (10YR 5/2) silt loam; massive; friable; common medium distinct dark yellowish brown (10YR 4/4) and few fine distinct yellowish brown (10YR 5/6) iron accumulations; common medium soft masses of iron-manganese; very strongly acid; some evidence of faint bedding planes; clear wavy boundary.
Cg2—51 to 70 inches; grayish brown (10YR 5/2) silt loam; massive; friable; many medium faint light brownish gray (10YR 6/2) iron depletions; common medium soft masses of iron-manganese; very strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 46 inches
Reaction: Very strongly acid or strongly acid in all horizons, except for the surface layer where lime has been applied

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—silt

Bw horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3
Texture—silt or silt loam
Redoximorphic features—few to many iron depletions and accumulations in shades of brown and gray

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—silt or silt loam
Redoximorphic features—few to many iron depletions and accumulations in shades of brown, yellow, and gray

Oaklimeter Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Silty alluvium
Landscape: Southern Mississippi River Valley Silty Uplands
Landform: Flood plains
Landform position: Slight convexities
Slope: 0 to 2 percent
Taxonomic class: Coarse-silty, mixed, active, thermic Fluvaquentic Dystrudepts

Commonly Associated Soils

The Oaklimeter series in Leflore County is commonly associated on the landscape with Collins and Falaya soils.

- The moderately well drained Collins soils are in slightly lower positions than the Oaklimeter soils.
- The somewhat poorly drained Falaya soils are in lower positions than the Oaklimeter soils.

Typical Pedon

Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded; NW¼NW¼ sec. 32, T. 20 N., R. 2 E.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; few fine roots; moderately acid; clear smooth boundary.
BA—7 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few fine roots; moderately acid; abrupt smooth boundary.
Bw1—12 to 25 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common medium distinct brown (10YR 5/3) iron accumulations and common medium distinct grayish brown (10YR 5/2) iron depletions; few fine roots; few fine rounded soft masses of iron-manganese; very strongly acid; gradual smooth boundary.
Bw2—25 to 34 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; many coarse distinct dark yellowish brown (10YR 4/4) iron accumulations and common fine faint grayish brown (10YR 5/2) iron depletions; few rounded fine soft masses of iron-manganese; very strongly acid; clear smooth boundary.

Btgb1—34 to 49 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to weak medium subangular blocky; firm; common medium prominent strong brown (7.5YR 4/6) iron accumulations; common faint clay film on faces of peds; few fine and medium rounded iron-manganese concretions; common faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

Btgb2—49 to 62 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to weak medium subangular blocky; firm; common medium prominent strong brown (7.5YR 4/6) iron accumulations; common faint clay films on faces of peds; few fine rounded iron-manganese concretions; common faint light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Reaction: Very strongly acid or strongly acid in all horizons, except for the surface layer where lime has been applied

Ap and BA horizons:

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4

Texture—silt loam

Bw horizon:

Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4

Texture—silt loam or loam

Redoximorphic features—few to many iron depletions and accumulations in shades of brown, yellow, and gray

Btgb horizon:

Color—hue of 10YR, value of 5 or 6, and chroma of 2

Texture—silty clay loam or silt loam

Redoximorphic features—few or common iron depletions and accumulations in shades of brown, yellow, and gray

Silverdale Series

Depth class: Very deep

Drainage class: Moderately well drained

Permeability: Rapid in the upper part and moderate in the lower part

Parent material: Sandy sediments over loamy alluvium

Landscape: Southern Mississippi River Valley

Landform: Flood plains

Landform position: Depressions in natural levees

Slope: 0 to 2 percent

Taxonomic class: Sandy over loamy, mixed, superactive, nonacid, thermic Aquic Udifluvents

Commonly Associated Soils

The Silverdale series in Leflore County is commonly associated on the landscape with Bruno soils.

- The excessively drained Bruno soils are in positions that are more convex than those of the Silverdale soils and are adjacent to streams.

Typical Pedon

Silverdale loamy fine sand, 0 to 2 percent slopes, occasionally flooded; SW¼SW¼ sec. 9, T. 17 N., R. 1 E.

Ap—0 to 5 inches; brown (10YR 4/3) loamy fine sand; weak fine granular structure; very friable; common fine roots; moderately acid; clear smooth boundary.
C1—5 to 13 inches; brownish yellow (10YR 6/6) sand; few medium distinct dark grayish brown (10YR 4/2) iron depletions; loose; single grained; few fine roots; neutral; clear smooth boundary.
C2—13 to 28 inches; light yellowish brown (10YR 6/4) sand; few fine distinct light gray (10YR 7/2 iron depletions; single grained; loose; few fine roots; slightly acid; clear smooth boundary.
2Ab—28 to 35 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; very friable; few fine distinct light brownish gray (10YR 6/2) iron depletions; slightly acid; clear smooth boundary.
2C1—35 to 57 inches; dark yellowish brown (10YR 4/4) silt loam; massive; very friable; common fine distinct brownish yellow (10YR 6/6) and few fine distinct strong brown (7.5YR 5/8) iron accumulations; many fine bedding planes; slightly acid; gradual smooth boundary.
2C2—57 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; very friable; common medium distinct light brownish gray (10YR 6/2) iron depletions and few medium distinct dark yellowish brown (10YR 4/6) iron accumulations; many fine bedding planes; slightly acid.

Range in Characteristics

Thickness of underlying soil material: 24 to 32 inches of sandy surface sediments over loamy alluvium
Reaction: Moderately acid to neutral in the A and C horizons, except for the surface layer where lime has been applied; slightly acid or neutral in the 2Ab horizon
Other distinctive features: Some pedons have horizons with a matrix that has hue of 5Y or 5GY, value of 5 or 6, and chroma of 1 or 2 below a depth of 50 inches.

Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
Texture—loamy sand, fine sand, loamy fine sand, or sandy loam

C horizon:
Color—hue of 10YR, value of 6, and chroma of 3 to 6
Texture—sand
Redoximorphic features—few or common iron depletions and accumulations in shades of brown, yellow, and gray

2Ab horizon:
Color—hue of 10YR, value of 4, and chroma of 3 or 4
Texture—silt loam or loam

2C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 3 or 4
Texture—silt loam

2Cg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—silt loam or silty clay loam

Tensas Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey over loamy alluvium

Landscape: Southern Mississippi River Valley
Landform: Backswamps and natural levees
Landform position: Swales and slightly convex, broad transitional areas bordering backswamps
Slope: 0 to 8 percent
Taxonomic class: Fine, smectitic, thermic Chromic Vertic Epiaqualfs

Commonly Associated Soils

The Tensas series in Leflore County is commonly associated on the landscape with Alligator, Askew, Dowling, Dubbs, and Dundee soils.

- The poorly drained Alligator soils and very poorly drained Dowling soils are in lower positions than the Tensas soils.
- The moderately well drained Askew soils and well drained Dubbs soils are in higher positions than the Tensas soils and are on ridges.
- The somewhat poorly drained Dundee soils are in positions similar to those of the Tensas soils or slightly higher.

Typical Pedon

Tensas silty clay loam, 0 to 1 percent slopes (fig. 7); NE¼NE¼SW¼ sec. 25, T. 18 N., R. 1 W.

Ap1—0 to 5 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine and medium granular structure; friable; common very fine roots; strongly acid; clear smooth boundary.

Ap2—5 to 11 inches; dark grayish brown (10YR 4/2) silty clay; weak fine and medium subangular blocky structure; firm, sticky and very plastic; many coarse faint brown (10YR 4/3) and common fine distinct dark yellowish brown (10YR 4/4) iron accumulations; common very fine roots in cracks; fragments of dense compact plow pan in parts of the horizon; very strongly acid; clear smooth boundary.

Btg1—11 to 24 inches; dark grayish brown (10YR 4/2) clay; moderate fine and medium subangular blocky structure; very firm, very sticky and very plastic; common fine distinct dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4) iron accumulations; few fine roots; few faint clay films on vertical and horizontal faces of peds; few pressure faces; few fine soft masses of iron-manganese; very strongly acid; clear smooth boundary.

Btg2—24 to 34 inches; grayish brown (10YR 5/2) clay; moderate medium prismatic structure parting to strong fine subangular blocky; firm, very sticky and very plastic; common fine distinct brown (10YR 4/3) iron accumulations and common fine distinct dark grayish brown (10YR 4/2) iron depletions; few fine roots; many faint dark grayish brown (10YR 4/2) clay films on vertical and horizontal faces of peds; few fine pores; few fine masses of iron-manganese; very strongly acid; clear smooth boundary.

2Bg—34 to 43 inches; grayish brown (2.5Y 5/2) clay loam; weak medium subangular blocky structure; friable, sticky and plastic; common fine distinct yellowish brown (10YR 5/4) iron accumulations; few very fine roots; few faint dark grayish brown (10YR 4/2) iron depletions; few fine rounded iron-manganese concretions; very strongly acid; clear smooth boundary.

2BCg—43 to 65 inches; grayish brown (10YR 5/2) loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common fine distinct yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/4) iron accumulations; few fine soft masses of iron-manganese; strongly acid; gradual smooth boundary.

2Cg—65 to 80 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm, sticky and plastic; common fine distinct yellowish brown (10YR 5/4) and brown

Figure 7—Profile of a Tensas soil in an area of Tensas-Alligator complex, 0 to 3 percent slopes, occasionally flooded.

(10YR 5/3) iron accumulations; common fine soft masses of iron-manganese; moderately acid.

Range in Characteristics

Thickness of the solum: 35 to more than 60 inches
Reaction: Very strongly acid to moderately acid in the Ap and Btg horizons, except for the surface layer where lime has been applied; strongly acid to slightly alkaline in the 2BCg and 2C horizons

Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2
Texture—silty clay loam or silty clay

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2
Texture—clay or silty clay
Redoximorphic features—few to many iron depletions and accumulations in shades of brown and gray

2Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2
Texture—clay, silty clay, silty clay loam, or clay loam
Redoximorphic features—few or common iron depletions and accumulations in shades of brown, yellow, and gray

2C horizon:
Color—hue of 2.5Y, value of 4 or 5, and chroma of 2
Texture—variable, ranges from silty clay loam to very fine sandy loam

Tutwiler Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Southern Mississippi River Valley
Landform: Flood plains
Landform position: Low ridges on natural levees between swales
Slope: 0 to 5 percent
Taxonomic class: Coarse-silty, mixed, active, thermic Typic Hapludalfs

Commonly Associated Soils

The Tutwiler series in Leflore County is commonly associated on the landscape with Beulah, Dubbs, and Dundee soils.

- The somewhat excessively drained Beulah soils and well drained Dubbs soils are in positions similar to those of the Tutwiler soils.
- The somewhat poorly drained Dundee soils are in lower positions than the Tutwiler soils and in swales.

Typical Pedon

Tutwiler very fine sandy loam, 0 to 3 percent slopes; SE¼NW¼ sec. 5, T. 21 N., R. 1 E.

Ap—0 to 5 inches; brown (10YR 4/3) very fine sandy loam; weak fine granular structure; very friable; few fine roots; few fine and medium pores; very strongly acid; abrupt smooth boundary.

AB—5 to 9 inches; brown (10YR 4/3) very fine sandy loam; massive; friable; few fine roots; some mixing of material from the Bt horizon in the lower part; strongly acid; clear smooth boundary.
Bt—9 to 26 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; few fine roots; few fine pores; few faint dark brown (10YR 3/3) clay films on faces of peds; strongly acid; clear smooth boundary.
BC—26 to 32 inches; yellowish brown (10YR 5/4) very fine sandy loam; weak medium subangular blocky structure; few very fine roots; few fine pores; moderately acid; gradual wavy boundary.
2C—32 to 65 inches; brown (10YR 5/3) loamy very fine sand; few medium faint yellowish brown (10YR 5/4) iron accumulations; massive; loose; slightly acid.

Range in Characteristics

Thickness of the solum: 25 to 45 inches
Reaction: Very strongly acid to moderately acid in the A and B horizons, except for the surface layer where lime has been applied; neutral in the lower part of the solum in some pedons
Control section: Averages 10 to 18 percent clay

Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—very fine sandy loam

AB horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—very fine sandy loam or silt loam

Bt horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—fine sandy loam, loam, or silt loam

BC horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—very fine sandy loam or fine sandy loam

2C horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—loamy very fine sand
Redoximorphic features—few iron accumulations in shades of brown or yellow

Formation of the Soils

In this section, the factors of soil formation are described and related to the formation of the soils in Leflore County. Also, the processes of horizon differentiation are explained.

Factors of Soil Formation

Soil is produced by the action of soil-forming processes on material deposited or accumulated by geologic forces. The characteristics of the soil at any given place are determined by the physical and mineralogical nature of the parent material; the effects of climate; the plant and animal life on and in the soil, including the activities of people; the relief, or lay of the land; and the length of time these forces have acted on the soil material. All five factors influence the characteristics of every soil, but the significance of each factor varies from one place to another. One factor may dominate soil formation in one area; in another area, a different factor may be most important.

The interrelationships of these factors are complex, and the effects of any one factor cannot be isolated and completely evaluated. Each factor, however, does have certain probable effects.

Parent Material

Parent material is the geologic material in which a soil forms. It determines the physical and mineral composition of the soil. All of the soils in Leflore County formed in parent material deposited by water during the Holocene Period (Saucier, 1994). Most of these materials consist of sediments deposited by floodwaters from the Mississippi River or its tributaries. These alluvial sediments are a mixture of many types of rocks and soils. The sediments washed in from a region that includes over 20 states and parts of Canada. The region extends from Montana to New York. Consequently, the alluvium is a mixture many minerals, most of which are only slightly weathered.

The nature of the parent material is determined by the depositional environment in which it was laid. The five depositional environments of parent material in Leflore County are: point bars, abandoned courses and channels, backswamps, natural levees, and alluvial aprons (Kolb and others, 1968).

Point bar deposits are on the interiors of river bends and result from meandering streams. They consist of loamy material on ridges and loamy to clayey material in depressions or swales. Characteristically, the ridges and swales alternate.

Abandoned courses and channels are partially or wholly filled segments of streams that have had altered flow. These deposits consist of clayey and silty sediments. In some cases, under-fit streams occupy abandoned courses and deposit sandy and silty sediments over the older, clayey sediments.

Backswamp deposits are in broad, level basins between meander belts. These deposits consist of fine textured sediments, primarily clay and silt, that were laid down by ponding or very slow moving floodwaters from streams.

Natural levee deposits are on broad, low ridges adjacent to stream courses that

have overflowed. In places, the courses overflowed periodically. The deposits are loamy and sandy. These coarse textured sediments gradually decrease in thickness with increasing distance from the stream.

Alluvial apron deposits are on broad, nearly level, coalescing alluvial fans adjacent to Mississippi Valley Silty Uplands. These sediments are silty and are derived primarily from loess deposits on the hills flanking the river valley. These sediments are in the extreme eastern part of Leflore County.

The pattern of sediment distribution is complicated by the considerable variation over time of the direction and amount of water that has flowed in the streams. The ancestral Mississippi River is estimated to have flowed through Leflore County at four different intervals (Saucier, 1994). The natural pattern of sediment distribution from a single stream may be partially destroyed or obscured by one or more subsequent smaller streams, or recent deposits may be superimposed on older deposits of a different nature. The length of time soil-forming factors have been at work on the various types of sediments determines the type of soil formed.

Climate

Leflore County has a warm, moist climate that is conducive to rapid soil development. Warm temperatures and abundant moisture promote the growth of organisms and rapid chemical reactions, both of which break down primary minerals into elemental components and secondary minerals. These factors also promote the reduction and movement of iron and manganese under saturated conditions. Precipitation in the county has, over time, leached calcium and other chemicals and accelerated the translocation of colloidal material, such as clay, within the soil profile. The pattern of rainfall distribution is also important. The amount of rainfall is lowest during the summer and fall, which is when maximum temperatures occur. This pattern leads to considerable changes in moisture within the soil profile over the course of the year. Because of the shrinking and swelling of the soil caused by changes in moisture, clayey soils, such as Alligator and Tensas soils, form extensive cracks on the surface and are subject to substantial movement of soil material within the profile.

Plant and Animal Life

Plants and animals, including microorganisms that live on and in the soil, influence soil formation. Microorganisms break down minerals and convert organic matter into humus. Crawfish, earthworms, and other burrowing animals mix the upper layers of the soil. Native vegetation varies according to landscape position.

Prior to settlement, much of Leflore County was covered by forest. Mixed hardwoods flourished on natural levees and meander belts. At one time, the meander belt associated with the present course of the Yazoo River was known as Dogwood Ridge (Halsell, 1947). Mixed hardwoods, cypress, and tupelo gum were in backswamps. Thick stands of cypress and tupelo gum grew in swamps. These plants supplied organic matter and were mixed in the upper layers of the soil by windthrow. Also, plant roots penetrated the surface and subsurface material, improving movement of water and air within the soil.

Human activities have had a profound impact on the soils in Leflore County. Flooding has also been a major factor affecting soil formation. Much of Leflore County was periodically flooded prior to the construction of flood-control measures during the last century. Between 1900 and 1950, the Yazoo River area was subject to major flooding on average every 2 years. Land clearing and drainage for agricultural purposes have altered much of the area. Cultivation increases runoff and soil erosion,

resulting in lower overall levels of humus in the surface layer. Cultivation also increases soil compaction, which reduces the rate of water and air movement into and through the soil. Cut-and-fill land leveling to improve drainage and distribution of irrigation water has changed the lay of the land. In some places where deep cuts were required, the soil has been completely removed, leaving relatively unaltered sediment on the surface and concurrently burying the soil in the lower parts of the landscape.

Relief

Relief affects soil formation by influencing drainage, erosion, and plant cover. The landscape features in Leflore County are level to gently sloping and reflect sediment deposition rather than erosion. Elevation ranges from 144 feet above sea level near Minter City to 105 feet near the western and southern borders of the county. The maximum difference in elevation is 39 feet. The steepest areas of the county are narrow drop-offs bordering sloughs and abandoned stream channels. Well drained soils, such as Dubbs and Tutwiler soils, are in the higher landscape positions within meander belts. The somewhat poorly drained Tensas and Dundee soils are in transitional areas between backswamps and meander belts. The poorly drained Alligator soils are in backswamps and depressional areas. The very poorly drained Dowling soils are in abandoned channels and courses.

Time

The length of time soils have been forming is one of the most important factors affecting soil formation in Leflore County. Geologically, all of the soils in Leflore County are young, having formed from sediments that are less than 12,000 years old. Collins and Bruno soils formed in sediments of more recent origin and exhibit stratification that reflects minimal soil development. These soils lack the structural development and distinct colors of soil horizons. Dubbs, Dundee, Tensas, and Tutwiler soils are older and have more horizon development. Water moving through soil detaches clay particles and translocates them to lower portions of the profile. Over time, the content of clay in the subsoil increases, reducing water movement and resulting in more clay accumulation. Translocation of clay and the effects of plant roots increase structural development in the subsurface horizons.

Processes of Horizon Differentiation

Several processes affect the formation of soil horizons. These processes are the accumulation of organic matter, the leaching of calcium carbonate and bases, the reduction and transfer of iron, and the formation and translocation of silicate clay minerals. In most of the soils in Leflore County, more than one of these processes have been active in the development of horizons.

The accumulation of organic matter in the upper part of the soil profile is important because this accumulation results in the formation of an A horizon. The soils in Leflore County have a low content of organic matter.

In Leflore County, carbonates and bases have been leached from nearly all the soils except the Dowling and Silverdale soils. This leaching has contributed to the development of horizons. The leaching of bases from the upper horizons of a soil commonly precedes the translocation of silicate clay minerals. Most of the soils in the county are moderately to strongly leached.

The reduction and transfer of iron, a process called gleying, is evident in the poorly drained and very poorly drained soils in the county. Gleying is indicated by grayish colors in the horizons below the surface layer. The segregation of iron is indicated in

some horizons by reddish brown mottles and concretions. Alligator and Dowling soils are examples of soils in which gleying has occurred.

The translocation of clay minerals has contributed to horizon development in some of the soils in the county. An eluviated E horizon, which is above the B horizon, has a lower content of clay and is generally lighter in color. The E horizon occurs in uncleared soils and does not exist in cleared soils. It has been incorporated into the plowed surface layer of cropland. The B horizon commonly has accumulations of clay (clay films) in pores and on surfaces of peds. Soils that have such horizons were probably leached of carbonates and soluble salts to a considerable extent before the silicate clays were translocated. Askew, Dubbs, Dundee, Tensas, and Tutwiler soils are examples of soils in which translocated silicate clays have accumulated in the B horizon in the form of clay films.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Alluvial apron. Broad, gently sloping areas composed of both alluvial and colluvial deposits that are present along the base of valley walls.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches of water per inch of soil, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 0.02
Low	0.02 to 0.06
Moderate	0.06 to 0.15
High	0.15 to 0.22
Very high	more than 0.22

Backswamp. An extensive, marshy, depressed area of flood plains between the natural levee border of a channel belt and a valley side or terrace.

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.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Brake. A heavily overgrown (as with thickets) wet area.

C (in tables). Clay.

Capability class. A system of classification that groups similar soils together according to their limitations for crops.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but that have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

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.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

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, 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.

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.

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.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as

a result of the human or animal activities or of a catastrophe in nature, such as fire, that exposes the surface.

Erosion hazard. The susceptibility of a soil to sheet and rill erosion by water.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *field capacity, 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.

Flood plain splays. Small alluvial fans formed where flooding breaks through a levee (natural or artificial) and deposits the coarser part of its load on the adjacent flood plain.

Flooding. The temporary covering of the soil surface by flowing water from an overflowing stream, by runoff from adjacent slopes, or by inflow from high tides.
Frequent.—Flooding occurs, on the average, more than twice in 5 years.
Occasional.—Flooding occurs, on the average, no more than twice in 5 years.
Rare.—Flooding is unlikely but is possible under unusual weather conditions.

FS (in tables). Fine sand.

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.

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.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an 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 capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate

1.25 to 1.75 ..... moderately high
1.75 to 2.5 ..... high
More than 2.5 ..... very high

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.

Land leveling. The movement of soil material by people from one area to another to produce a more uniform slope.

LCOS (in tables). Loamy coarse sand.

Leaching. The removal of soluble material from soil or other material by percolating water.

LFS (in tables). Loamy fine sand.

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.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

LS (in tables). Loamy sand.

LVFS (in tables). Loamy very fine sand.

Meander belt. The bottom-land zone within which migration of a meander-channel occurs.

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).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mucky clay. A soil textural class consisting dominantly of clay but having enough organic matter that the soil has some properties of organic soil combined with the properties of the clay. Mucky clay has more than 10 percent organic matter and less than 17 percent observable fibers.

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.

Natural levees. Wedge-shaped, low ridges that are on channel banks and slope gently away from the stream.

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

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Subsurface tunnels or pipelike cavities are formed by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

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.

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.

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.

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.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

SC (in tables). Sandy clay.

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.

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.

Shrink-swell potential (in tables). The potential for volume change in a soil with a loss or gain in moisture.

SIC (in tables). Silty clay.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, 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.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

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."

Surface runoff. See "Runoff."

Swale. A low place; a slight depression in a region which is, in general, nearly level.

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.

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.

VFS (in tables). Very fine sand.

Water table. A saturated zone in the soil.

Apparent.—A thick zone of free water.

Perched.—Water standing above an unsaturated zone.

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.

Woodland ordination symbol. A system of classification of soils according to their productivity for timber and the major soil limitation affecting the production of timber.

Tables

Table 1.--Temperature and Precipitation

[Recorded in the period 1961-90 at Greenwood, Mississippi]

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher	Minimum temperature lower	Average number of growing degree	Average	Less than--	More than--	Average number of days with 0.10 inch	Average snowfall
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*		*In*
January-----	51.5	33.5	42.5	76	9	60	4.86	2.35	7.03	7	---
February----	56.6	36.9	46.8	78	16	81	4.52	2.73	6.12	6	---
March-------	65.7	45.1	55.4	84	24	223	5.80	3.18	8.11	7	---
April-------	74.8	53.2	64.0	89	33	422	5.09	2.67	7.20	6	---
May---------	82.3	61.6	71.9	94	44	680	5.25	2.28	7.78	7	---
June--------	89.4	68.6	79.0	100	54	870	4.28	1.57	6.54	5	---
July--------	91.5	71.7	81.6	101	60	979	4.25	2.10	6.11	6	---
August------	90.7	70.4	80.2	100	58	947	2.63	1.00	3.99	4	---
September---	85.7	64.6	75.1	97	43	753	3.32	1.40	4.95	4	---
October-----	76.3	52.2	64.3	91	33	445	3.64	1.45	5.70	4	---
November----	65.3	44.1	54.7	84	23	202	4.99	2.53	7.17	6	---
December----	55.5	36.8	46.1	78	13	87	5.86	2.60	8.64	7	---
Yearly:											
Average---	73.8	53.2	63.5	---	---	---	---	---	---	---	---
Extreme---	105	-2	---	102	7	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,750	54.47	44.53	63.93	69	---

* 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 1961-90 at Greenwood, Mississippi]

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. 11	Mar. 25	Apr. 5
2 years in 10 later than--	Mar. 2	Mar. 17	Mar. 30
5 years in 10 later than--	Feb. 12	Mar. 2	Mar. 19
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 16	Nov. 6	Oct. 27
2 years in 10 earlier than--	Nov. 23	Nov. 13	Nov. 1
5 years in 10 earlier than--	Dec. 7	Nov. 25	Nov. 12

Table 3.--Growing Season

[Recorded in the period 1961-90 at Greenwood, Mississippi]

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	255	232	213
8 years in 10	265	242	221
5 years in 10	285	263	237
2 years in 10	305	283	253
1 year in 10	315	294	261

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Collins silt loam, 0 to 2 percent slopes	2,984	0.8
2	Collins silt loam, 0 to 2 percent slopes, occasionally flooded	307	*
3	Alfic Udarents, loamy	842	0.2
4	Alligator clay, 0 to 1 percent slopes	101,200	26.1
5	Alligator clay, 1 to 3 percent slopes	4,206	1.1
6	Alligator clay, depressional	21,847	5.6
7	Alligator, Tensas, and Dowling soils, frequently flooded	19,494	5.0
8	Arkabutla silty clay loam, 0 to 2 percent slopes	1,026	0.3
9	Arkabutla silty clay loam, 0 to 2 percent slopes, occasionally flooded	322	*
10	Arkabutla and Falaya soils, 0 to 5 percent slopes, frequently flooded	8,512	2.2
11	Askew silt loam, 0 to 1 percent slopes	2,081	0.5
12	Askew silt loam, 1 to 3 percent slopes	10,395	2.7
13	Beulah fine sandy loam, 0 to 1 percent slopes	416	0.1
14	Beulah fine sandy loam, 1 to 5 percent slopes	919	0.2
15	Bruno loamy sand, 0 to 2 percent slopes, occasionally flooded	1,037	0.3
16	Dubbs loam, 0 to 1 percent slopes	17,311	4.5
17	Dubbs loam, 1 to 3 percent slopes	17,461	4.5
18	Dubbs very fine sandy loam, 3 to 7 percent slopes	1,760	0.5
19	Dubbs-Dundee complex, 0 to 3 percent slopes	17,289	4.5
20	Dubbs-Dundee-Urban land complex, 0 to 3 percent slopes	1,207	0.3
21	Dundee loam, 0 to 1 percent slopes	30,365	7.8
22	Falaya silt, 0 to 2 percent slopes, occasionally flooded	2,896	0.7
23	Dowling muck	11,600	3.0
24	Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded	993	0.3
25	Pits-Udorthents complex	1,551	0.4
26	Silverdale loamy fine sand, 0 to 2 percent slopes, occasionally flooded	428	0.1
27	Tensas silty clay loam, 0 to 1 percent slopes	42,602	11.0
28	Tensas silty clay loam, 1 to 3 percent slopes	13,037	3.4
29	Tensas silty clay loam, 3 to 8 percent slopes	1,297	0.3
30	Tensas-Alligator complex, 0 to 3 percent slopes, occasionally flooded	23,308	6.0
31	Tensas-Alligator-Urban land complex, 0 to 3 percent slopes	4,385	1.1
32	Tutwiler very fine sandy loam, 0 to 3 percent slopes	1,590	0.4
33	Tutwiler very fine sandy loam, 3 to 6 percent slopes	455	0.1
34	Urban land	185	*
W	Water	22,892	5.9
	Total	388,200	100.0

* Less than 0.1 percent.

Table 5.--Prime Farmland and Other Important Farmland

[Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name]

Map symbol	Map unit name	Farmland classification
9	Arkabutla silty clay loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
11	Askew silt loam, 0 to 1 percent slopes	All areas are prime farmland
12	Askew silt loam, 1 to 3 percent slopes	All areas are prime farmland
13	Beulah fine sandy loam, 0 to 1 percent slopes	All areas are prime farmland
14	Beulah fine sandy loam, 1 to 5 percent slopes	All areas are prime farmland
16	Dubbs loam, 0 to 1 percent slopes	All areas are prime farmland
17	Dubbs loam, 1 to 3 percent slopes	All areas are prime farmland
18	Dubbs very fine sandy loam, 3 to 7 percent slopes	All areas are prime farmland
19	Dubbs-Dundee complex, 0 to 3 percent slopes	All areas are prime farmland
21	Dundee loam, 0 to 1 percent slopes	All areas are prime farmland
22	Falaya silt, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
24	Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
27	Tensas silty clay loam, 0 to 1 percent slopes	All areas are prime farmland
28	Tensas silty clay loam, 1 to 3 percent slopes	All areas are prime farmland
29	Tensas silty clay loam, 3 to 8 percent slopes	All areas are prime farmland
30	Tensas-Alligator complex, 0 to 3 percent slopes, occasionally flooded	All areas are prime farmland
32	Tutwiler very fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
33	Tutwiler very fine sandy loam, 3 to 6 percent slopes	All areas are prime farmland
1	Collins silt loam, 0 to 2 percent slopes	Prime farmland if protected from flooding or not frequently flooded during the growing season
2	Collins silt loam, 0 to 2 percent slopes, occasionally flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
5	Alligator clay, 1 to 3 percent slopes	Prime farmland if drained
10	Arkabutla and Falaya soils, 0 to 5 percent slopes, frequently flooded	Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
15	Bruno loamy sand, 0 to 2 percent slopes, occasionally flooded	Farmland of statewide importance

Table 6.--Land Capability and Yields per Acre of Crops

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Corn	Cotton lint	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*
1:					
Collins	1	110	800	40	40
2:					
Collins	2w	110	800	40	40
3:					
Alfic Udarents	3w	---	---	---	---
4:					
Alligator	3w	---	---	35	---
5:					
Alligator	3e	---	---	30	---
6:					
Alligator	5w	---	---	---	---
7:					
Alligator	5w	---	---	---	---
Tensas	5w	---	---	30	---
Dowling	7w	---	---	---	---
8:					
Arkabutla	2w	100	750	40	35
9:					
Arkabutla	2w	95	700	35	48
10:					
Arkabutla	4w	70	750	20	50
Falaya	4w	---	---	35	---
11:					
Askew	1	80	700	35	40
12:					
Askew	2e	80	700	30	40
13:					
Beulah	2s	75	600	35	45
14:					
Beulah	2s	70	550	30	45
15:					
Bruno	3s	---	---	---	27
16:					
Dubbs	1	90	850	40	50

Table 6.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*
17:					
Dubbs	2e	85	800	35	50
18:					
Dubbs	3e	80	750	30	40
19:					
Dubbs	2e	90	850	40	50
Dundee	2e	85	750	40	45
20:					
Dubbs	2e	---	---	---	---
Urban land	8s	---	---	---	---
Dundee	2e	---	---	---	---
21:					
Dundee	2w	85	750	40	45
22:					
Falaya	2w	100	750	40	35
23:					
Dowling	7w	---	---	---	---
24:					
Oaklimeter	2w	95	750	40	40
25:					
Pits	8s	---	---	---	---
Udorthents	8s	---	---	---	---
26:					
Silverdale	3s	135.2	---	---	---
27:					
Tensas	3w	---	600	40	50
28:					
Tensas	3e	---	575	35	47
29:					
Tensas	3w	---	550	30	47
30:					
Tensas	4w	---	---	30	40
Alligator	4w	---	---	30	45
31:					
Tensas	3e	---	575	35	47
Urban land	---	---	---	---	---
Alligator	3e	---	550	30	47
32:					
Tutwiler	1	140	850	35	35

Table 6.--Land Capability and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*
33:					
Tutwiler	2e	140	800	35	---
34:					
Urban land	8s	---	---	---	---

Table 7.--Land Capability and Yields per Acre of Pastureland

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Bahiagrass	Improved bermudagrass	Tall fescue
		AUM	*AUM*	*AUM*
1:				
Collins	1	---	12	10
2:				
Collins	2w	---	12	10
3:				
Alfic Udarents	3w	6	8	---
4:				
Alligator	3w	---	9	9
5:				
Alligator	3e	---	9	9
6:				
Alligator	5w	---	---	7
7:				
Alligator	5w	---	---	---
Tensas	5w	---	---	9
Dowling	7w	---	---	---
8:				
Arkabutla	2w	---	9	9
9:				
Arkabutla	2w	---	---	10
10:				
Arkabutla	4w	---	---	9
Falaya	4w	6	---	6.5
11:				
Askew	1	---	---	9
12:				
Askew	2e	---	6.5	9
13:				
Beulah	2s	---	8	7
14:				
Beulah	2s	---	8	7
15:				
Bruno	3s	---	---	---
16:				
Dubbs	1	---	---	10
17:				
Dubbs	2e	---	12	10

Table 7.--Land Capability and Yields per Acre of Pastureland--Continued

Map symbol and soil name	Land capability	Bahiagrass	Improved bermudagrass	Tall fescue
		AUM	*AUM*	*AUM*
18:				
Dubbs	3e	---	---	8
19:				
Dubbs	2e	---	12	10
Dundee	2w	---	9	9
20:				
Dubbs	2e	---	---	---
Urban land	8s	---	---	---
Dundee	2e	---	---	---
21:				
Dundee	2w	---	9	9
22:				
Falaya	2w	7.5	---	9
23:				
Dowling	7w	---	---	---
24:				
Oaklimeter	2w	---	11	10
25:				
Pits	8s	---	---	---
Udorthents	8s	---	---	---
26:				
Silverdale	3s	---	---	---
27:				
Tensas	3w	---	11	9
28:				
Tensas	3e	---	10.5	9
29:				
Tensas	3w	---	10.5	9
30:				
Tensas	4w	---	---	---
Alligator	4w	---	---	---
31:				
Tensas	3e	---	10.5	9
Urban land	---	---	---	---
Alligator	3e	---	9	9
32:				
Tutwiler	1	---	9.5	12.5

Table 7.--Land Capability and Yields per Acre of Pastureland--Continued

Map symbol and soil name	Land capability	Bahiagrass	Improved bermudagrass	Tall fescue
		AUM	*AUM*	*AUM*
33:				
Tutwiler	2e	---	9.5	12.5
34:				
Urban land	8s	---	---	---

Table 8.--Forestland Management and Productivity

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
1:										
Collins	13A	Slight	Slight	Slight	Slight	Severe	Cherrybark oak	110	57	Cherrybark oak, eastern cottonwood, green ash
							Eastern cottonwood	115	---	
							Green ash	95	57	
2:										
Collins	4A	Slight	Slight	Slight	Slight	Severe	Cherrybark oak	110	57	Cherrybark oak, eastern cottonwood, green ash
							Eastern cottonwood	115	---	
							Green ash	95	57	
3:										
Alfic Udarents	9A	Slight	Moderate	Moderate	Slight	Slight	Loblolly pine	68	86	Loblolly pine
							Shortleaf pine	58	86	
							Southern red oak	60	43	
4:										
Alligator	6W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	90	100	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak
							Green ash	70	43	
							Honeylocust	80	86	
							Nuttall oak	90	86	
							Sugarberry	90	100	
							Swamp chestnut oak	---	---	
							Sweetgum	90	100	
							Water oak	90	86	
							Willow oak	95	86	
5:										
Alligator	6W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	90	100	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak
							Green ash	70	43	
							Honeylocust	80	86	
							Nuttall oak	90	86	
							Sugarberry	90	100	
							Swamp chestnut oak	---	---	
							Sweetgum	90	100	
							Water oak	90	86	
							Willow oak	95	86	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
6:										
Alligator	4W	Slight	Severe	Severe	Moderate	Moderate	Baldcypress	---	---	Baldcypress, green ash, overcup oak
							Black willow	---	---	
							Green ash	90	57	
							Overcup oak	96	---	
							Sugarberry	---	---	
							Water hickory	---	---	
							Water tupelo	---	---	
7:										
Alligator	4W	Slight	Severe	Severe	Moderate	Moderate	Baldcypress	---	---	Baldcypress, green ash, overcup oak
							Black willow	---	---	
							Green ash	90	57	
							Overcup oak	96	---	
							Sugarberry	---	---	
							Water hickory	---	---	
							Water tupelo	---	---	
Tensas	3W	Slight	Severe	Severe	Severe	Moderate	Green ash	75	43	Baldcypress, green ash
							Overcup oak	80	---	
							Sugarberry	---	---	
							Water hickory	---	---	
Dowling	6W	Slight	Severe	Severe	Severe	Moderate	Baldcypress	96	86	Baldcypress
							Black willow	---	---	
							Overcup oak	---	---	
							Red maple	---	---	
							Water hickory	---	---	
							Water tupelo	---	---	
8:										
Arkabutla	9W	Slight	Moderate	Slight	Moderate	Severe	Cherrybark oak	100	157	Cherrybark oak, eastern cottonwood, green ash, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	90	129	
							Loblolly pine	90	129	
							Nuttall oak	110	100	
							Water oak	100	100	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
9:										
Arkabutla	4W	Slight	Moderate	Slight	Slight	Moderate	Cherrybark oak	105	57	American sycamore, cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum
							Eastern cottonwood	110	---	
							Green ash	95	57	
							Loblolly pine	100	129	
							Nuttall oak	110	---	
							Sweetgum	100	143	
							Water oak	100	---	
							Willow oak	100	---	
10:										
Arkabutla	4W	Slight	Severe	Moderate	Slight	Moderate	Cherrybark oak	105	57	American sycamore, cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum
							Eastern cottonwood	110	---	
							Green ash	95	57	
							Loblolly pine	100	129	
							Nuttall oak	110	---	
							Sweetgum	100	143	
							Water oak	100	---	
Falaya	9W	Slight	Moderate	Severe	Moderate	Severe	Cherrybark oak	100	157	Cherrybark oak, eastern cottonwood, green ash, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	90	129	
							Loblolly pine	90	129	
							Nuttall oak	110	100	
							Water oak	100	100	
11:										
Askew	8A	Slight	Slight	Slight	Slight	Moderate	Cherrybark oak	90	114	Cherrybark oak, Nuttall oak, water oak
							Eastern cottonwood	100	129	
							Nuttall oak	90	86	
							Sweetgum	90	100	
							Water oak	90	86	
							Willow oak	90	86	
12:										
Askew	8A	Slight	Slight	Slight	Slight	Moderate	Cherrybark oak	90	114	Cherrybark oak, Nuttall oak, water oak
							Eastern cottonwood	100	129	
							Nuttall oak	90	86	
							Sweetgum	90	100	
							Water oak	90	86	
							Willow oak	90	86	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
13:										
Beulah	8S	Slight	Slight	Moderate	Slight	Moderate	American sycamore	---	---	Cherrybark oak, eastern cottonwood, loblolly pine, shortleaf pine
							Cherrybark oak	90	114	
							Eastern cottonwood	100	129	
							Nuttall oak	90	114	
							Water oak	90	86	
							Willow oak	90	86	
14:										
Beulah	8S	Slight	Slight	Moderate	Slight	Moderate	American sycamore	---	---	Cherrybark oak, eastern cottonwood, loblolly pine, shortleaf pine
							Cherrybark oak	90	114	
							Eastern cottonwood	100	129	
							Nuttall oak	90	114	
							Water oak	90	86	
							Willow oak	90	86	
15:										
Bruno	8S	Slight	Moderate	Severe	Slight	Moderate	American sycamore	100	129	Cherrybark oak, loblolly pine, Shumard's oak, sweetgum, tuliptree, willow oak
							Black willow	---	---	
							Cherrybark oak	90	114	
							Eastern cottonwood	110	157	
							Loblolly pine	93	143	
							River birch	---	---	
							Sweetgum	94	114	
							Tuliptree	94	100	
							Water oak	90	86	
							Willow oak	90	86	
16:										
Dubbs	10A	Slight	Slight	Slight	Slight	Slight	Cherrybark oak	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	80	57	
							Nuttall oak	95	---	
							Shumard's oak	100	72	
							Sweetgum	95	114	
							Water oak	90	86	
							Willow oak	95	86	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
17:										
Dubbs	10A	Slight	Slight	Slight	Slight	Slight	Cherrybark oak	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	80	57	
							Nuttall oak	95	---	
							Shumard's oak	100	72	
							Sweetgum	95	114	
							Water oak	90	86	
							Willow oak	95	86	
18:										
Dubbs	10A	Slight	Slight	Slight	Slight	Slight	Cherrybark oak	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	80	57	
							Nuttall oak	95	---	
							Shumard's oak	100	72	
							Sweetgum	95	114	
							Water oak	90	86	
							Willow oak	95	86	
19:										
Dubbs	10A	Slight	Slight	Slight	Slight	Slight	Cherrybark oak	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	80	57	
							Nuttall oak	95	---	
							Shumard's oak	100	72	
							Sweetgum	95	114	
							Water oak	90	86	
							Willow oak	95	86	
Dundee	12W	Slight	Moderate	Slight	Slight	Moderate	Cherrybark oak	105	172	Cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak
							Eastern cottonwood	100	129	
							Sweetgum	100	143	
							Water oak	95	86	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
20:										
Dubbs	10A	Slight	Slight	Slight	Slight	Slight	Cherrybark oak	100	143	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	80	57	
							Nuttall oak	95	---	
							Shumard's oak	100	72	
							Sweetgum	95	114	
							Water oak	90	86	
							Willow oak	95	86	
Urban land.										
Dundee	12W	Slight	Moderate	Slight	Slight	Moderate	Cherrybark oak	105	172	Cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak
							Eastern cottonwood	100	129	
							Sweetgum	100	143	
							Water oak	95	86	
21:										
Dundee	12W	Slight	Moderate	Slight	Slight	Moderate	Cherrybark oak	105	172	Cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak
							Eastern cottonwood	100	129	
							Sweetgum	100	143	
							Water oak	95	86	
22:										
Falaya	9W	Slight	Moderate	Moderate	Moderate	Severe	Cherrybark oak	100	157	Cherrybark oak, eastern cottonwood, green ash, sweetgum, tuliptree
							Eastern cottonwood	100	129	
							Green ash	90	129	
							Loblolly pine	90	129	
							Nuttall oak	110	100	
							Water oak	100	100	
23:										
Dowling	6W	Slight	Severe	Severe	Severe	Moderate	Baldcypress	96	86	Baldcypress
							Black willow	---	---	
							Overcup oak	---	---	
							Red maple	---	---	
							Water hickory	---	---	
							Water tupelo	---	---	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
24:										
Oaklimeter	10A	Slight	Slight	Moderate	Slight	Moderate	Cherrybark oak	100	143	Cherrybark oak, eastern cottonwood, loblolly pine, Nuttall oak, sweetgum, tuliptree, water oak
							Eastern cottonwood	100	129	
							Green ash	90	57	
							Loblolly pine	90	129	
							Nuttall oak	100	---	
							Sweetgum	100	143	
							Willow oak	100	100	
25:										
Pits.										
Udorthents.										
26:										
Silverdale	8S	Slight	Slight	Moderate	Slight	Moderate	Black oak	70	57	American sycamore, eastern cottonwood, eastern white pine, shortleaf pine, sweetgum
							Pin oak	80	57	
							Shortleaf pine	70	114	
							Sweetgum	80	86	
27:										
Tensas	4W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	---	---	Green ash, Nuttall oak, water oak
							Green ash	80	57	
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Sweetgum	100	143	
							Water oak	95	86	
							Willow oak	---	---	
28:										
Tensas	4W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	---	---	Green ash, Nuttall oak, water oak
							Green ash	80	57	
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Sweetgum	100	143	
							Water oak	95	86	
							Willow oak	---	---	

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
29:										
Tensas	4W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	---	---	Green ash, Nuttall oak, water oak
							Green ash	80	57	
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Sweetgum	100	143	
							Water oak	95	86	
							Willow oak	---	---	
30:										
Tensas	4W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	---	---	Green ash, Nuttall oak, water oak
							Green ash	80	57	
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Sweetgum	100	143	
							Water oak	95	86	
							Willow oak	---	---	
Alligator	6W	Slight	Severe	Moderate	Moderate	Severe	Green ash	98	86	Green ash, Nuttall oak
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Overcup oak	---	---	
							Sugarberry	---	---	
							Sweetgum	---	---	
							Water hickory	---	---	
31:										
Tensas	4W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	---	---	Green ash, Nuttall oak, water oak
							Green ash	80	57	
							Honeylocust	---	---	
							Nuttall oak	---	---	
							Sweetgum	100	143	
							Water oak	95	86	
							Willow oak	---	---	
Urban land.										

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination Symbol	Management concerns					Potential productivity			Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume of wood fiber	
									cu ft/ac	
31:										
Alligator	6W	Slight	Severe	Moderate	Moderate	Severe	Cedar elm	90	100	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak
							Green ash	70	43	
							Honeylocust	80	86	
							Nuttall oak	90	86	
							Sugarberry	90	100	
							Swamp chestnut oak	---	---	
							Sweetgum	90	100	
							Water oak	90	86	
							Willow oak	95	86	
32:										
Tutwiler	9A	Slight	Moderate	Slight	Slight	Slight	Cherrybark oak	95	129	American sycamore, cherrybark oak, eastern cottonwood, sweetgum, water oak
							Eastern cottonwood	100	129	
							Sweetgum	100	143	
							Water oak	90	86	
33:										
Tutwiler	9A	Slight	Moderate	Slight	Slight	Slight	Cherrybark oak	95	129	American sycamore, cherrybark oak, eastern cottonwood, sweetgum, water oak
							Eastern cottonwood	100	129	
							Sweetgum	100	143	
							Water oak	90	86	
34:										
Urban land.										

Table 9.--Forestland Understory Vegetation

Map symbol and soil name	Characteristic vegetation	Composition
		Pct
1:		
Collins	Little bluestem	21
	Beaked panicum	16
	Panicum	16
	Slender woodoats	16
	Switchcane	16
	Misc. perennial forbs	15
2:		
Collins	Little bluestem	21
	Beaked panicum	16
	Panicum	16
	Slender woodoats	16
	Switchcane	16
	Misc. perennial forbs	15
3:		
Alfic Udarents.		
4:		
Alligator.		
5:		
Alligator.		
6:		
Alligator.		
7:		
Alligator.		
Tensas.		
Dowling.		
8:		
Arkabutla	Little bluestem	28
	Switchcane	22
	Misc. perennial forbs	16
	Slender woodoats	16
	Misc. perennial grasses	13
	Beaked panicum	5
9:		
Arkabutla	Little bluestem	28
	Switchcane	26
	Slender woodoats	17
	Misc. perennial forbs	15
	Misc. shrubs	14
10:		
Arkabutla	Little bluestem	28
	Switchcane	26
	Slender woodoats	17
	Misc. perennial forbs	15
	Misc. shrubs	14
Falaya	Little bluestem	28
	Switchcane	22
	Misc. perennial forbs	16
	Slender woodoats	16
	Misc. perennial grasses	13
	Beaked panicum	5

Table 9.--Forestland Understory Vegetation--Continued

Map symbol and soil name	Characteristic vegetation	Composition
		Pct
11:		
Askew	Virginia wildrye	25
	Switchcane	20
	Uniola	15
	Misc. perennial forbs	10
	Misc. shrubs	10
	Beaked panicum	5
	Misc. perennial grasses	5
	Sedge	5
	Switchgrass	5
12:		
Askew	Virginia wildrye	25
	Switchcane	20
	Uniola	15
	Misc. perennial forbs	10
	Misc. shrubs	10
	Beaked panicum	5
	Misc. perennial grasses	5
	Sedge	5
	Switchgrass	5
13:		
Beulah.		
14:		
Beulah.		
15:		
Bruno.		
16:		
Dubbs.		
17:		
Dubbs.		
18:		
Dubbs.		
19:		
Dubbs.		
Dundee.		
20:		
Dubbs.		
Urban land.		
Dundee.		
21:		
Dundee.		
22:		
Falaya	Little bluestem	28
	Switchcane	22
	Misc. perennial forbs	16
	Slender woodoats	16
	Misc. perennial grasses	13
	Beaked panicum	5
23:		
Dowling.		

Table 9.--Forestland Understory Vegetation--Continued

Map symbol and soil name	Characteristic vegetation	Composition
		Pct
24:		
Oaklimeter------	Beaked panicum----------	26
	Little bluestem----------	21
	Switchcane---------------	20
	Slender woodoats---------	16
	Misc. perennial forbs----	9
	Misc. shrubs-------------	8
25:		
Pits.		
Udorthents.		
26:		
Silverdale.		
27:		
Tensas.		
28:		
Tensas.		
29:		
Tensas.		
30:		
Tensas.		
Alligator.		
31:		
Tensas.		
Urban land.		
Alligator.		
32:		
Tutwiler.		
33:		
Tutwiler.		
34:		
Urban land.		

Table 10.--Camp Areas, Picnic Areas, and Playgrounds

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
2:							
Collins	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Flooding	0.60
3:							
Alfic Udarents	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
4:							
Alligator	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00				
5:							
Alligator	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00				
6:							
Alligator	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00				
7:							
Alligator	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	1.00	Flooding	1.00
		Slow water movement	1.00	Too clayey	1.00	Slow water movement	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
Tensas	22	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Flooding	1.00
		Slow water movement	1.00	Flooding	0.40	Slow water movement	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	0.19	Depth to saturated zone	0.39

Table 10.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Dowling	18	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00			Flooding	0.60
8:							
Arkabutla	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
		Depth to saturated zone	0.98				
9:							
Arkabutla	95	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00			Flooding	0.60
10:							
Arkabutla	45	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.40	Flooding	1.00
Falaya	40	Very limited		Somewhat limited		Very limited	
		Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
11:							
Askew	90	Very limited		Not limited		Not limited	
		Flooding	1.00				
12:							
Askew	90	Very limited		Not limited		Not limited	
		Flooding	1.00				
13:							
Beulah	90	Very limited		Not limited		Not limited	
		Flooding	1.00				
14:							
Beulah	90	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.12
15:							
Bruno	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.87	Too sandy	0.87
		Too sandy	0.87			Flooding	0.60
16:							
Dubbs	90	Very limited		Not limited		Not limited	
		Flooding	1.00				
17:							
Dubbs	95	Very limited		Not limited		Not limited	
		Flooding	1.00				

Table 10.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18:							
Dubbs	95	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.88
19:							
Dubbs	55	Very limited		Not limited		Not limited	
		Flooding	1.00				
Dundee	35	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water	0.21	Slow water	0.21
		Slow water movement	0.21	movement		movement	
20:							
Dubbs	40	Very limited		Not limited		Not limited	
		Flooding	1.00				
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water	0.21	Slow water	0.21
		Slow water movement	0.21	movement		movement	
21:							
Dundee	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Slow water	0.21	Slow water	0.21
		Slow water movement	0.21	movement		movement	
22:							
Falaya	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to	0.75	Depth to	0.98
		Depth to saturated zone	0.98	saturated zone		saturated zone	
						Flooding	0.60
23:							
Dowling	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Slow water movement	1.00	Ponding	1.00
		Slow water movement	1.00	Too clayey	1.00	Slow water movement	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
24:							
Oaklimeter	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to	0.19	Flooding	0.60
		Depth to saturated zone	0.39	saturated zone		Depth to saturated zone	0.39
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Too sandy	0.49	Flooding	0.60
		Too sandy	0.49			Too sandy	0.49

Table 10.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.19	Depth to saturated zone	0.39
		Depth to saturated zone	0.39				
28:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.19	Depth to saturated zone	0.39
		Depth to saturated zone	0.39				
29:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.19	Slope	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
30:							
Tensas	54	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.19	Flooding	0.60
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
Alligator	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00			Flooding	0.60
31:							
Tensas	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.19	Depth to saturated zone	0.39
		Depth to saturated zone	0.39				
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Slow water movement	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Slow water movement	1.00
		Slow water movement	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00				
32:							
Tutwiler	85	Very limited		Not limited		Not limited	
		Flooding	1.00				

Table 10.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33:							
Tutwiler	85	Very limited		Not limited		Somewhat limited	
		Flooding	1.00			Slope	0.50
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 11.--Paths, Trails, and Golf Fairways

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
2:							
Collins	90	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
3:							
Alfic Udarents	95	Not limited		Not limited		Not limited	
4:							
Alligator	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
5:							
Alligator	90	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
6:							
Alligator	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
7:							
Alligator	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40	Too clayey	1.00
Tensas	22	Somewhat limited		Somewhat limited		Very limited	
		Flooding	0.40	Flooding	0.40	Flooding	1.00
						Depth to saturated zone	0.19
Dowling	18	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Flooding	0.60
8:							
Arkabutla	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75

Table 11.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9:							
Arkabutla	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
						Flooding	0.60
10:							
Arkabutla	45	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94
Falaya	40	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
11:							
Askew	90	Not limited		Not limited		Not limited	
12:							
Askew	90	Not limited		Not limited		Not limited	
13:							
Beulah	90	Not limited		Not limited		Not limited	
14:							
Beulah	90	Not limited		Not limited		Not limited	
15:							
Bruno	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.87	Too sandy	0.87	Droughty	0.74
						Flooding	0.60
16:							
Dubbs	90	Not limited		Not limited		Not limited	
17:							
Dubbs	95	Not limited		Not limited		Not limited	
18:							
Dubbs	95	Not limited		Not limited		Not limited	
19:							
Dubbs	55	Not limited		Not limited		Not limited	
Dundee	35	Not limited		Not limited		Not limited	
20:							
Dubbs	40	Not limited		Not limited		Not limited	
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Not limited		Not limited		Not limited	
21:							
Dundee	95	Not limited		Not limited		Not limited	

Table 11.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22:							
Falaya	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
						Flooding	0.60
23:							
Dowling	100	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Flooding	0.40	Too clayey	1.00
24:							
Oaklimeter	95	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
						Depth to saturated zone	0.19
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.49	Too sandy	0.49	Flooding	0.60
27:							
Tensas	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
28:							
Tensas	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
29:							
Tensas	85	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19
30:							
Tensas	54	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
						Depth to saturated zone	0.19
Alligator	34	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Flooding	0.60
31:							
Tensas	40	Not limited		Not limited		Somewhat limited	
						Depth to saturated zone	0.19

Table 11.--Paths, Trails, and Golf Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31:							
Urban land----------	35	Not rated		Not rated		Not rated	
Alligator----------	20	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
32:							
Tutwiler----------	85	Not limited		Not limited		Not limited	
33:							
Tutwiler----------	85	Not limited		Not limited		Not limited	
34:							
Urban land----------	100	Not rated		Not rated		Not rated	

Table 12a.--Wildlife Habitat (Part 1)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Collins	90	Somewhat limited		Somewhat limited	
		Flooding	0.50	Flooding	0.50
2:					
Collins	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
3:					
Alfic Udarents	95	Not rated		Not rated	
4:					
Alligator	90	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		
5:					
Alligator	90	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Potentially or highly erodible	1.00
		Potentially or highly erodible	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		
6:					
Alligator	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		
7:					
Alligator	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		
Tensas	22	Somewhat limited		Somewhat limited	
		Wetness	0.75	Wetness	0.75
		Flooding	0.50	Flooding	0.50
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43

Table 12a.--Wildlife Habitat (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7:					
Dowling	18	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Percs slowly	0.50	Percs slowly	0.50
8:					
Arkabutla	95	Somewhat limited		Somewhat limited	
		Wetness	0.99	Wetness	0.99
		Too clayey	0.57	Too clayey	0.57
9:					
Arkabutla	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	0.24	Too clayey	0.24
10:					
Arkabutla	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
Falaya	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	0.99	Wetness	0.99
11:					
Askew	90	Somewhat limited		Somewhat limited	
		Wetness	0.19	Wetness	0.19
12:					
Askew	90	Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.19	Wetness	0.19
13:					
Beulah	90	Somewhat limited		Not limited	
		Droughty	0.06		
14:					
Beulah	90	Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Droughty	0.05		
15:					
Bruno	95	Very limited		Somewhat limited	
		Droughty	1.00	Droughty	0.73
		Flooding	0.50	Too sandy	0.50
		Too sandy	0.50	Flooding	0.50
16:					
Dubbs	90	Not limited		Not limited	

Table 12a.--Wildlife Habitat (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17:					
Dubbs	95	Very limited Potentially or highly erodible	 1.00	Very limited Potentially or highly erodible	 1.00
18:					
Dubbs	95	Very limited Potentially or highly erodible	 1.00	Very limited Potentially or highly erodible	 1.00
19:					
Dubbs	55	Very limited Potentially or highly erodible	 1.00	Very limited Potentially or highly erodible	 1.00
Dundee	35	Very limited Potentially or highly erodible Wetness	 1.00 0.17	Very limited Potentially or highly erodible Wetness	 1.00 0.17
20:					
Dubbs	40	Very limited Potentially or highly erodible	 1.00	Very limited Potentially or highly erodible	 1.00
Urban land	35	Not rated		Not rated	
Dundee	20	Very limited Potentially or highly erodible Wetness Too clayey	 1.00 0.17 0.01	Very limited Potentially or highly erodible Wetness Too clayey	 1.00 0.17 0.01
21:					
Dundee	95	Somewhat limited Wetness	 0.17	Somewhat limited Wetness	 0.17
22:					
Falaya	95	Very limited Flooding Wetness	 1.00 0.99	Very limited Flooding Wetness	 1.00 0.99
23:					
Dowling	100	Very limited Ponding Flooding Wetness Too clayey Percs slowly	 1.00 1.00 1.00 1.00 0.50	Very limited Ponding Flooding Wetness Too clayey Percs slowly	 1.00 1.00 1.00 1.00 0.50
24:					
Oaklimeter	95	Very limited Flooding Wetness	 1.00 0.75	Very limited Flooding Wetness	 1.00 0.75
25:					
Pits	75	Not rated		Not rated	
Udorthents	25	Not rated		Not rated	

Table 12a.--Wildlife Habitat (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
26:					
Silverdale	95	Somewhat limited		Somewhat limited	
		Droughty	0.92	Too sandy	0.50
		Flooding	0.50	Flooding	0.50
		Too sandy	0.50	Wetness	0.19
		Wetness	0.19		
27:					
Tensas	85	Somewhat limited		Somewhat limited	
		Wetness	0.75	Wetness	0.75
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43
28:					
Tensas	85	Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.75	Wetness	0.75
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43
29:					
Tensas	85	Very limited		Very limited	
		Potentially or highly erodible	1.00	Potentially or highly erodible	1.00
		Wetness	0.75	Wetness	0.75
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43
30:					
Tensas	54	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	0.75	Wetness	0.75
		Too clayey	0.57	Too clayey	0.57
		Percs slowly	0.50	Percs slowly	0.50
Alligator	34	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		
31:					
Tensas	40	Somewhat limited		Somewhat limited	
		Wetness	0.75	Wetness	0.75
		Too clayey	0.50	Too clayey	0.50
		Percs slowly	0.50	Percs slowly	0.50
Urban land	35	Not rated		Not rated	
Alligator	20	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.76	Percs slowly	0.50
		Percs slowly	0.50		

Table 12a.--Wildlife Habitat (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
32:					
Tutwiler	85	Very limited Potentially or highly erodible	1.00	Very limited Potentially or highly erodible	1.00
33:					
Tutwiler	85	Very limited Potentially or highly erodible	1.00	Very limited Potentially or highly erodible	1.00
34:					
Urban land	100	Not rated		Not rated	

Table 12b.--Wildlife Habitat (Part 2)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Collins----------	90	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
2:					
Collins----------	90	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
3:					
Alfic Udarents---	95	Not rated		Not rated	
4:					
Alligator--------	90	Very limited		Very limited	
		SIC, C, SC (surface) (too clayey)	1.00	SIC, C, SC (surface) (too clayey)	1.00
				Extreme soil temperatures	0.50
5:					
Alligator--------	90	Very limited		Very limited	
		SIC, C, SC (surface) (too clayey)	1.00	SIC, C, SC (surface) (too clayey)	1.00
				Extreme soil temperatures	0.50
6:					
Alligator--------	95	Very limited		Very limited	
		SIC, C, SC (surface) (too clayey)	1.00	SIC, C, SC (surface) (too clayey)	1.00
				Extreme soil temperatures	0.50
7:					
Alligator--------	50	Very limited		Very limited	
		SIC, C, SC (surface) (too clayey)	1.00	SIC, C, SC (surface) (too clayey)	1.00
				Extreme soil temperatures	0.50
Tensas-----------	22	Somewhat limited		Somewhat limited	
		SICL, CL, SCL (surface) (moderately clayey)	0.50	SICL, CL, SCL (surface) (moderately clayey)	0.50
				Extreme soil temperatures	0.50

Table 12b.--Wildlife Habitat (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7:					
Dowling	18	Very limited SIC, C, SC (surface) (too clayey)	1.00	Very limited SIC, C, SC (surface) (too clayey) Extreme soil temperatures	1.00 0.50
8:					
Arkabutla	95	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
9:					
Arkabutla	95	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
10:					
Arkabutla	45	Not limited		Somewhat limited Extreme soil temperatures	0.50
Falaya	40	Not limited		Somewhat limited Extreme soil temperatures	0.50
11:					
Askew	90	Not limited		Somewhat limited Extreme soil temperatures	0.50
12:					
Askew	90	Not limited		Somewhat limited Extreme soil temperatures	0.50
13:					
Beulah	90	Not limited		Somewhat limited Extreme soil temperatures	0.50
14:					
Beulah	90	Not limited		Somewhat limited Extreme soil temperatures	0.50

Table 12b.--Wildlife Habitat (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
15:					
Bruno	95	Somewhat limited		Somewhat limited	
		2-4" weighted available water capacity to 40" (moderately droughty)	0.73	2-4" weighted available water capacity to 40" (moderately droughty)	0.73
		LCOS, LS, LFS, LVFS USDA soil surface texture (moderately sandy)	0.50	LCOS, LS, FS, VFS USDA soil surface texture (moderately sandy)	0.50
				Extreme soil temperatures	0.50
16:					
Dubbs	90	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
17:					
Dubbs	95	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
18:					
Dubbs	95	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
19:					
Dubbs	55	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
Dundee	35	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
20:					
Dubbs	40	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50
Urban land	35	Not rated		Not rated	
Dundee	20	Somewhat limited		Somewhat limited	
		SICL, CL, SCL (surface) (moderately clayey)	0.50	SICL, CL, SCL (surface) (moderately clayey)	0.50
				Extreme soil temperatures	0.50
21:					
Dundee	95	Not limited		Somewhat limited	
				Extreme soil temperatures	0.50

Table 12b.--Wildlife Habitat (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
22:					
Falaya	95	Not limited		Somewhat limited Extreme soil temperatures	0.50
23:					
Dowling	100	Very limited SIC, C, SC (surface) (too clayey)	1.00	Very limited SIC, C, SC (surface) (too clayey) Extreme soil temperatures	1.00 0.50
24:					
Oaklimeter	95	Not limited		Somewhat limited Extreme soil temperatures	0.50
25:					
Pits	75	Not rated		Not rated	
Udorthents	25	Not rated		Not rated	
26:					
Silverdale	95	Somewhat limited LCOS, LS, LFS, LVFS USDA soil surface texture (moderately sandy)	0.50	Not limited	
27:					
Tensas	85	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
28:					
Tensas	85	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
29:					
Tensas	85	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50

Table 12b.--Wildlife Habitat (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
30:					
Tensas	54	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
Alligator	34	Very limited SIC, C, SC (surface) (too clayey)	1.00	Very limited SIC, C, SC (surface) (too clayey) Extreme soil temperatures	1.00 0.50
31:					
Tensas	40	Somewhat limited SICL, CL, SCL (surface) (moderately clayey)	0.50	Somewhat limited SICL, CL, SCL (surface) (moderately clayey) Extreme soil temperatures	0.50 0.50
Urban land	35	Not rated		Not rated	
Alligator	20	Very limited SIC, C, SC (surface) (too clayey)	1.00	Very limited SIC, C, SC (surface) (too clayey) Extreme soil temperatures	1.00 0.50
32:					
Tutwiler	85	Not limited		Somewhat limited Extreme soil temperatures	0.50
33:					
Tutwiler	85	Not limited		Somewhat limited Extreme soil temperatures	0.50
34:					
Urban land	100	Not rated		Not rated	

Table 12c.--Wildlife Habitat (Part 3)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland coniferous trees		Upland mixed deciduous-conifer trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
2:							
Collins	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
3:							
Alfic Udarents	95	Not rated		Not rated		Very limited > 2 months wetness during growing season	1.00
4:							
Alligator	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
5:							
Alligator	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
6:							
Alligator	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
7:							
Alligator	50	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
Tensas	22	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
Dowling	18	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00

Table 12c.--Wildlife Habitat (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland coniferous trees		Upland mixed deciduous-conifer trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Arkabutla	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
9:							
Arkabutla	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
10:							
Arkabutla	45	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
Falaya	40	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
11:							
Askew	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
12:							
Askew	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
13:							
Beulah	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
14:							
Beulah	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
15:							
Bruno	95	Somewhat limited 2-4" weighted available water capacity to 40" (moderately droughty)	0.73	Somewhat limited Suited soil temperatures 2.0-3.2" weighted available water capacity to 40" (moderately droughty)	0.50 0.30	Very limited > 2 months wetness during growing season 0.05-0.10 in/in available water capacity (moderately droughty)	1.00 0.73
16:							
Dubbs	90	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	

Table 12c.--Wildlife Habitat (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland coniferous trees		Upland mixed deciduous-conifer trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17:							
Dubbs	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
18:							
Dubbs	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
19:							
Dubbs	55	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
Dundee	35	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
20:							
Dubbs	40	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
21:							
Dundee	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
22:							
Falaya	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
23:							
Dowling	100	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
24:							
Oaklimeter	95	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	

Table 12c.--Wildlife Habitat (Part 3)--Continued

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland coniferous trees		Upland mixed deciduous-conifer trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26:							
Silverdale----------	95	Not limited		Not limited		Very limited > 2 months wetness during growing season	1.00
27:							
Tensas----------	85	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
28:							
Tensas----------	85	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
29:							
Tensas----------	85	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
30:							
Tensas----------	54	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
Alligator----------	34	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
31:							
Tensas----------	40	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
Urban land----------	35	Not rated		Not rated		Not rated	
Alligator----------	20	Not limited		Somewhat limited Suited soil temperatures	0.50	Very limited > 2 months wetness during growing season	1.00
32:							
Tutwiler----------	85	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
33:							
Tutwiler----------	85	Not limited		Somewhat limited Suited soil temperatures	0.50	Not limited	
34:							
Urban land----------	100	Not rated		Not rated		Not rated	

Table 12d.--Wildlife Habitat (Part 4)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Very limited No or rare flooding	 1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
2:							
Collins	90	Very limited No or rare flooding Long flooding	 1.00 0.50	Somewhat limited Long/v. freq., freq., or occas. flooding	 0.50	Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
3:							
Alfic Udarents	95	Very limited No or rare flooding	 1.00	Not limited		Somewhat limited < 4.5 min pH at 0-40" (too acid)	 0.99
4:							
Alligator	90	Very limited No or rare flooding Long flooding	 1.00 0.50	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
5:							
Alligator	90	Very limited No or rare flooding Long flooding	 1.00 0.50	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
6:							
Alligator	95	Very limited No or rare flooding Long ponding Long flooding	 1.00 0.50 0.50	Very limited Very long ponding	 1.00	Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
7:							
Alligator	50	Very limited No or rare flooding Very long flooding	 1.00 1.00	Very limited V. long/v. freq., freq., or occas. flooding	 1.00	Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.78
Tensas	22	Very limited No or rare flooding	 1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	 0.44

Table 12d.--Wildlife Habitat (Part 4)--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Dowling	18	Very limited		Very limited		Somewhat limited	
		Very long ponding	1.00	Very long ponding	1.00	Very long ponding	0.50
		No or rare flooding	1.00	Long/v. freq., freq., or occas. flooding	0.50		
		Long flooding	0.50				
8:							
Arkabutla	95	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.78
9:							
Arkabutla	95	Very limited		Very limited		Somewhat limited	
		No or rare flooding	1.00	V. long/v. freq., freq., or occas. flooding	1.00	4.5-6.0 min pH at 0-40" (moderately acid)	0.78
		Very long flooding	1.00				
10:							
Arkabutla	45	Very limited		Very limited		Somewhat limited	
		No or rare flooding	1.00	V. long/v. freq., freq., or occas. flooding	1.00	4.5-6.0 min pH at 0-40" (moderately acid)	0.78
		Very long flooding	1.00				
Falaya	40	Very limited		Somewhat limited		Somewhat limited	
		No or rare flooding	1.00	Long/v. freq., freq., or occas. flooding	0.50	4.5-6.0 min pH at 0-40" (moderately acid)	0.78
		Long flooding	0.50				
11:							
Askew	90	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.78
12:							
Askew	90	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.22
13:							
Beulah	90	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.44

Table 12d.--Wildlife Habitat (Part 4)--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
14:							
Beulah	90	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
15:							
Bruno	95	Very limited No or rare flooding LCOS, LS, LFS, LVFS USDA soil surface texture (moderately sandy)	1.00 0.50	Somewhat limited 2.0-3.2" weighted available water capacity to 40" (moderately droughty)	0.30	Not limited	
16:							
Dubbs	90	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.22
17:							
Dubbs	95	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.22
18:							
Dubbs	95	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.22
19:							
Dubbs	55	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.22
Dundee	35	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
20:							
Dubbs	40	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
Urban land	35	Not rated		Not rated		Not rated	

Table 12d.--Wildlife Habitat (Part 4)--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20:							
Dundee	20	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.44
21:							
Dundee	95	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.44
22:							
Falaya	95	Very limited		Somewhat limited		Somewhat limited	
		No or rare flooding	1.00	Long/v. freq., freq., or occas. flooding	0.50	4.5-6.0 min pH at 0-40" (moderately acid)	0.78
		Long flooding	0.50				
23:							
Dowling	100	Very limited		Very limited		Somewhat limited	
		Very long ponding	1.00	V. long/v. freq., freq., or occas. flooding	1.00	Very long ponding	0.50
		Very long flooding	1.00				
				Very long ponding	1.00		
24:							
Oaklimeter	95	Very limited		Very limited		Somewhat limited	
		No or rare flooding	1.00	V. long/v. freq., freq., or occas. flooding	1.00	4.5-6.0 min pH at 0-40" (moderately acid)	0.78
		Very long flooding	1.00				
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Very limited		Not limited		Not limited	
		No or rare flooding	1.00				
		LCOS, LS, LFS, LVFS USDA soil surface texture (moderately sandy)	0.50				
27:							
Tensas	85	Very limited		Not limited		Somewhat limited	
		No or rare flooding	1.00			4.5-6.0 min pH at 0-40" (moderately acid)	0.44

Table 12d.--Wildlife Habitat (Part 4)--Continued

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
28:							
Tensas	85	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
29:							
Tensas	85	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
30:							
Tensas	54	Very limited No or rare flooding Long flooding	1.00 0.50	Somewhat limited Long/v. freq., freq., or occas. flooding	0.50	Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
Alligator	34	Very limited No or rare flooding Very long flooding	1.00 1.00	Very limited V. long/v. freq., freq., or occas. flooding	1.00	Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.78
31:							
Tensas	40	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.78
32:							
Tutwiler	85	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
33:							
Tutwiler	85	Very limited No or rare flooding	1.00	Not limited		Somewhat limited 4.5-6.0 min pH at 0-40" (moderately acid)	0.44
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 13.--Dwellings and Small Commercial Buildings

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.82		
2:							
Collins	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.82		
3:							
Alfic Udarents	95	Variable		Somewhat limited		Variable	
				Depth to saturated zone	0.16		
4:							
Alligator	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
5:							
Alligator	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
6:							
Alligator	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
7:							
Alligator	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Tensas	22	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39

Table 13.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Dowling	18	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
8:							
Arkabutla	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
9:							
Arkabutla	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
10:							
Arkabutla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Falaya	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
11:							
Askew	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.50
12:							
Askew	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.50	Depth to saturated zone	0.50	Depth to saturated zone	0.50
13:							
Beulah	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
14:							
Beulah	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
15:							
Bruno	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
16:							
Dubbs	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Flooding	0.50	Flooding	0.50	Flooding	0.50
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 13.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17:							
Dubbs	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Flooding	0.50	Shrink-swell	0.50
18:							
Dubbs	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Flooding	0.50	Shrink-swell	0.50
						Slope	0.12
19:							
Dubbs	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Flooding	0.50	Shrink-swell	0.50
Dundee	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
20:							
Dubbs	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Flooding	0.50	Shrink-swell	0.50
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
21:							
Dundee	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
22:							
Falaya	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
23:							
Dowling	100	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
24:							
Oaklimeter	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39

Table 13.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
27:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to saturated zone	0.39
28:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to saturated zone	0.39
29:							
Tensas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Slope	0.50
		Slope	0.50			Depth to saturated zone	0.39
30:							
Tensas	54	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to saturated zone	0.39
Alligator	34	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
31:							
Tensas	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39	Shrink-swell	1.00	Depth to saturated zone	0.39
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 13.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
32:							
Tutwiler	85	Not limited		Slightly limited Flooding	0.10	Not limited	
33:							
Tutwiler	85	Not limited		Slightly limited Flooding	0.10	Not limited	
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 14.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Flooding	0.60	Depth to saturated zone	0.82	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		
2:							
Collins	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Flooding	0.60	Depth to saturated zone	0.82	Flooding	0.60
				Flooding	0.60		
				Cutbanks cave	0.10		
3:							
Alfic Udarents	95	Variable		Very limited		Variable	
				Cutbanks cave	1.00		
				Depth to saturated zone	0.16		
4:							
Alligator	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Too clayey	1.00	Depth to saturated zone	0.99
		Flooding	0.40	Cutbanks cave	1.00		
5:							
Alligator	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Too clayey	1.00	Depth to saturated zone	0.99
		Flooding	0.40	Cutbanks cave	1.00		
6:							
Alligator	95	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Too clayey	1.00
		Ponding	1.00	Cutbanks cave	1.00	Ponding	1.00
		Flooding	0.40	Ponding	1.00		
7:							
Alligator	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	1.00	Too clayey	1.00
				Flooding	0.80		

Table 14.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Tensas	22	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to	1.00	Flooding	1.00
		Flooding	1.00	saturated zone		Depth to	0.19
		Depth to	0.19	Flooding	0.80	saturated zone	
		saturated zone		Too clayey	0.50		
				Cutbanks cave	0.10		
Dowling	18	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to	1.00	Depth to	1.00
		Depth to	1.00	saturated zone		saturated zone	
		saturated zone		Too clayey	1.00	Too clayey	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
8:							
Arkabutla	95	Somewhat limited		Very limited		Somewhat limited	
		Depth to	0.75	Depth to	1.00	Depth to	0.75
		saturated zone		saturated zone		saturated zone	
		Flooding	0.40	Cutbanks cave	0.10	Flooding	0.40
9:							
Arkabutla	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to	1.00	Depth to	0.94
		Depth to	0.94	saturated zone		saturated zone	
		saturated zone		Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		
10:							
Arkabutla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to	1.00	Flooding	1.00
		Depth to	0.94	saturated zone		Depth to	0.94
		saturated zone		Flooding	0.80	saturated zone	
				Cutbanks cave	0.10		
Falaya	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to	1.00	Flooding	1.00
		Depth to	0.75	saturated zone		Depth to	0.75
		saturated zone		Flooding	0.80	saturated zone	
				Cutbanks cave	0.10		
11:							
Askew	90	Somewhat limited		Very limited		Not limited	
		Flooding	0.40	Depth to	0.99		
				saturated zone			
				Cutbanks cave	0.10		
12:							
Askew	90	Somewhat limited		Very limited		Not limited	
		Flooding	0.40	Depth to	0.99		
				saturated zone			
				Cutbanks cave	0.10		
13:							
Beulah	90	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Droughty	0.40
14:							
Beulah	90	Somewhat limited		Very limited		Somewhat limited	
		Flooding	0.40	Cutbanks cave	1.00	Droughty	0.40

Table 14.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Bruno	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.74
				Flooding	0.60	Flooding	0.60
				Depth to saturated zone	0.15		
16:							
Dubbs	90	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
17:							
Dubbs	95	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
18:							
Dubbs	95	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
19:							
Dubbs	55	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
Dundee	35	Somewhat limited		Very limited		Not limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99		
		Flooding	0.40	Cutbanks cave	0.10		
20:							
Dubbs	40	Somewhat limited		Somewhat limited		Not limited	
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Flooding	0.40				
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Somewhat limited		Very limited		Not limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99		
		Flooding	0.40	Cutbanks cave	0.10		
21:							
Dundee	95	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Depth to saturated zone	0.50
		Flooding	0.40	Cutbanks cave	0.10		
22:							
Falaya	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Flooding	0.60	Flooding	0.60
				Cutbanks cave	0.10		

Table 14.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Dowling	100	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80	Too clayey	1.00
				Cutbanks cave	0.10		
24:							
Oaklimeter	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Depth to saturated zone	0.19	Flooding	0.60	Depth to saturated zone	0.19
				Cutbanks cave	0.10		
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Depth to saturated zone	0.99		
				Flooding	0.60		
27:							
Tensas	85	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Flooding	0.40	Too clayey	0.50		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
28:							
Tensas	85	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Flooding	0.40	Too clayey	0.50		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
29:							
Tensas	85	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Flooding	0.40	Too clayey	0.50		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
30:							
Tensas	54	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Too clayey	0.50		
				Cutbanks cave	0.10		

Table 14.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Alligator	34	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Too clayey	1.00
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
31:							
Tensas	40	Very limited		Very limited		Somewhat limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Flooding	0.40	Too clayey	0.50		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Too clayey	1.00	Depth to saturated zone	0.99
		Flooding	0.40	Cutbanks cave	1.00		
32:							
Tutwiler	85	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Cutbanks cave	0.10		
33:							
Tutwiler	85	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Cutbanks cave	0.10		
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 15.--Sewage Disposal

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1:					
Collins	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	0.46	Seepage	0.53
2:					
Collins	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	0.46	Seepage	0.53
3:					
Alfic Udarents	95	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Seepage	1.00		
		Depth to saturated zone	0.43		
4:					
Alligator	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
5:					
Alligator	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
6:					
Alligator	95	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Flooding	0.40
		Flooding	0.40		

Table 15.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
7:					
Alligator	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Tensas	22	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.28
Dowling	18	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
8:					
Arkabutla	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.78	Flooding	0.40
		Flooding	0.40	Seepage	0.21
9:					
Arkabutla	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
10:					
Arkabutla	45	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
Falaya	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.78	Seepage	0.53

Table 15.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
11:					
Askew	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
12:					
Askew	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
13:					
Beulah	90	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
14:					
Beulah	90	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Flooding	0.40	Flooding	0.40
				Slope	0.08
15:					
Bruno	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Filtering capacity	1.00	Seepage	1.00
		Seepage	1.00		
		Depth to saturated zone	0.40		
16:					
Dubbs	90	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
17:					
Dubbs	95	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
18:					
Dubbs	95	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Slope	0.68
		Flooding	0.40	Flooding	0.40

Table 15.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
19:					
Dubbs	55	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
Dundee	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
		Flooding	0.40	Flooding	0.40
20:					
Dubbs	40	Very limited		Very limited	
		Seepage	1.00	Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40		
Urban land	35	Not rated		Not rated	
Dundee	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
		Flooding	0.40	Flooding	0.40
21:					
Dundee	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.53
		Flooding	0.40	Flooding	0.40
22:					
Falaya	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.78	Seepage	0.53
23:					
Dowling	100	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 15.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24:					
Oaklimeter	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
25:					
Pits	75	Not rated		Not rated	
Udorthents	25	Not rated		Not rated	
26:					
Silverdale	95	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Slow water movement	0.46	Depth to saturated zone	1.00
27:					
Tensas	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40	Seepage	0.28
28:					
Tensas	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40	Seepage	0.28
29:					
Tensas	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.92
		Flooding	0.40	Flooding	0.40
				Seepage	0.28
30:					
Tensas	54	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.28
Alligator	34	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 15.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
31:					
Tensas	40	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40	Seepage	0.28
Urban land	35	Not rated		Not rated	
Alligator	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
32:					
Tutwiler	85	Not limited		Somewhat limited	
				Seepage	0.53
				Flooding	0.40
33:					
Tutwiler	85	Not limited		Somewhat limited	
				Seepage	0.53
				Flooding	0.40
				Slope	0.32
34:					
Urban land	100	Not rated		Not rated	

Table 16.--Landfills

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
2:							
Collins	90	Very limited		Very limited		Not limited	
		Flooding	1.00	Flooding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
3:							
Alfic Udarents	95	Very limited		Very limited		Not limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage	1.00	Seepage	1.00		
4:							
Alligator	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
5:							
Alligator	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
6:							
Alligator	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Ponding	1.00	Too clayey	1.00
		Ponding	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Ponding	1.00
7:							
Alligator	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Tensas	22	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 16.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Dowling	18	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
8:							
Arkabutla	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Flooding	0.40	Flooding	0.40		
9:							
Arkabutla	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
10:							
Arkabutla	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Falaya	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
11:							
Askew	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
		Seepage	1.00	Seepage	1.00	Seepage	0.22
		Flooding	0.40	Flooding	0.40		
12:							
Askew	90	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.47
		Seepage	1.00	Seepage	1.00	Seepage	0.22
		Flooding	0.40	Flooding	0.40		
13:							
Beulah	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40		
14:							
Beulah	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40		

Table 16.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Bruno	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00		
		Too sandy	1.00				
16:							
Dubbs	90	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40	Too clayey	0.50
17:							
Dubbs	95	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40	Too clayey	0.50
18:							
Dubbs	95	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40	Too clayey	0.50
19:							
Dubbs	55	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40	Too clayey	0.50
Dundee	35	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Flooding	0.40	Flooding	0.40		
20:							
Dubbs	40	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Flooding	0.40	Flooding	0.40	Too clayey	0.50
Urban land	35	Not rated		Somewhat limited		Not rated	
				Flooding	0.40		
Dundee	20	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Flooding	0.40	Flooding	0.40		
21:							
Dundee	95	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.44
		Flooding	0.40	Flooding	0.40		
22:							
Falaya	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		

Table 16.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Dowling	100	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
24:							
Oaklimeter	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
25:							
Pits	75	Not rated		Not limited		Not rated	
Udorthents	25	Not rated		Not limited		Not rated	
26:							
Silverdale	95	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.47
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
				Seepage	1.00		
27:							
Tensas	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.86
28:							
Tensas	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.86
29:							
Tensas	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.86
30:							
Tensas	54	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.86
Alligator	34	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00

Table 16.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31:							
Tensas	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Flooding	0.40	Hard to compact	1.00
		Flooding	0.40			Depth to saturated zone	0.86
Urban land	35	Not rated		Somewhat limited		Not rated	
				Flooding	0.40		
Alligator	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
32:							
Tutwiler	85	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
33:							
Tutwiler	85	Somewhat limited		Somewhat limited		Not limited	
		Flooding	0.40	Flooding	0.40		
34:							
Urban land	100	Not rated		Not limited		Not rated	

Table 17.--Source of Reclamation Material, Roadfill, and Topsoil

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Fair		Good		Fair	
		Organic matter content low	0.05			Too acid	0.88
		Too acid	0.50				
		Water erosion	0.90				
2:							
Collins	90	Fair		Good		Fair	
		Organic matter content low	0.05			Too acid	0.88
		Too acid	0.50				
		Water erosion	0.90				
3:							
Alfic Udarents	95	Poor		Good		Not rated	
		Organic matter content low	0.00				
		Too acid	0.12				
4:							
Alligator	90	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
5:							
Alligator	90	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
6:							
Alligator	95	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
7:							
Alligator	50	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
Tensas	22	Poor		Fair		Poor	
		Too clayey	0.00	Shrink-swell	0.02	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.54			Too acid	0.98
		Water erosion	0.99				

Table 17.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Dowling	18	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.00
8:							
Arkabutla	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.50			Too acid	0.88
		Water erosion	0.68				
9:							
Arkabutla	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.04	Wetness depth	0.04
		Too acid	0.50			Too acid	0.88
		Water erosion	0.99				
10:							
Arkabutla	45	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.04	Wetness depth	0.04
		Too acid	0.50			Too acid	0.88
		Water erosion	0.90				
Falaya	40	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.50			Too acid	0.88
		Water erosion	0.68				
11:							
Askew	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.50				
		Water erosion	0.99				
12:							
Askew	90	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.68				
		Water erosion	0.99				
13:							
Beulah	90	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
14:							
Beulah	90	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				

Table 17.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Bruno	95	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content low	0.02				
		Droughty	0.09				
16:							
Dubbs	90	Fair		Fair		Good	
		Organic matter content low	0.12				
		Too acid	0.68				
		Water erosion	0.99				
17:							
Dubbs	95	Fair		Fair		Good	
		Organic matter content low	0.12				
		Too acid	0.68				
		Water erosion	0.99				
18:							
Dubbs	95	Fair		Fair		Good	
		Organic matter content low	0.12				
		Too acid	0.68				
		Water erosion	0.99				
19:							
Dubbs	55	Fair		Fair		Good	
		Organic matter content low	0.12				
		Too acid	0.68				
		Water erosion	0.99				
Dundee	35	Fair		Fair		Fair	
		Too acid	0.54	Wetness depth	0.91	Wetness depth	0.91
		Organic matter content low	0.88	Shrink-swell	0.99	Too acid	0.98
		Water erosion	0.99				
20:							
Dubbs	40	Fair		Fair		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
		Water erosion	0.99				
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Fair		Fair		Fair	
		Too acid	0.54	Wetness depth	0.91	Wetness depth	0.91
		Organic matter content low	0.88	Shrink-swell	0.99	Too acid	0.98
		Water erosion	0.90				

Table 17.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21:							
Dundee	95	Fair		Fair		Fair	
		Too acid	0.54	Wetness depth	0.91	Wetness depth	0.91
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				
22:							
Falaya	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.14	Wetness depth	0.14
		Too acid	0.50			Too acid	0.88
		Water erosion	0.68				
23:							
Dowling	100	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.00
24:							
Oaklimeter	95	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.53	Wetness depth	0.53
		Too acid	0.50			Too acid	0.88
		Water erosion	0.90				
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Poor		Fair		Poor	
		Too sandy	0.00	Wetness depth	0.89	Too sandy	0.00
		Wind erosion	0.00			Wetness depth	0.89
		Organic matter content low	0.12				
		Water erosion	0.90				
27:							
Tensas	85	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.54	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				
28:							
Tensas	85	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.54	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				

Table 17.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29:							
Tensas	85	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.54	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				
30:							
Tensas	54	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.54	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				
Alligator	34	Poor		Poor		Poor	
		Too clayey	0.00	Wetness depth	0.00	Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
31:							
Tensas	40	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Too acid	0.54	Wetness depth	0.53	Wetness depth	0.53
		Organic matter content low	0.88			Too acid	0.98
		Water erosion	0.99				
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Organic matter content low	0.12	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.32			Too acid	0.88
32:							
Tutwiler	85	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
		Water erosion	0.99				
33:							
Tutwiler	85	Fair		Good		Fair	
		Organic matter content low	0.12			Too acid	0.98
		Too acid	0.54				
		Water erosion	0.99				
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 18.--Source of Gravel and Sand

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1:					
Collins	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
2:					
Collins	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
3:					
Alfic Udarents	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.01
		Thickest layer	0.00	Bottom layer	0.10
4:					
Alligator	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
5:					
Alligator	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
6:					
Alligator	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
7:					
Alligator	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tensas	22	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Dowling	18	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
8:					
Arkabutla	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
9:					
Arkabutla	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
10:					
Arkabutla	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Falaya	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
11:					
Askew	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
12:					
Askew	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
13:					
Beulah	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
14:					
Beulah	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
15:					
Bruno	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.64
		Thickest layer	0.00	Thickest layer	0.64
16:					
Dubbs	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
17:					
Dubbs	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
18:					
Dubbs	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
19:					
Dubbs	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Dundee	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
20:					
Dubbs	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
20:					
Urban land	35	Not rated		Not rated	
Dundee	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
21:					
Dundee	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
22:					
Falaya	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
23:					
Dowling	100	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
24:					
Oaklimeter	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
25:					
Pits	75	Not rated		Not rated	
Udorthents	25	Not rated		Not rated	
26:					
Silverdale	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.75
27:					
Tensas	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
28:					
Tensas	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
29:					
Tensas	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
30:					
Tensas	54	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 18.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
30:					
Alligator	34	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
31:					
Tensas	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Urban land	35	Not rated		Not rated	
Alligator	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
32:					
Tutwiler	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
33:					
Tutwiler	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
34:					
Urban land	100	Not rated		Not rated	

Table 19.--Ponds and Embankments

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Piping	1.00	Depth to saturated zone	0.54
				Depth to saturated zone	0.09	Cutbanks cave	0.50
						Slow refill	0.28
2:							
Collins	90	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Piping	1.00	Depth to saturated zone	0.54
				Depth to saturated zone	0.09	Cutbanks cave	0.50
						Slow refill	0.28
3:							
Alfic Udarents	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
4:							
Alligator	90	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
				Hard to pack	1.00	Cutbanks cave	0.10
5:							
Alligator	90	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
				Hard to pack	1.00	Cutbanks cave	0.10
6:							
Alligator	95	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
				Hard to pack	1.00	Cutbanks cave	0.10
				Ponding	1.00		
7:							
Alligator	50	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
				Hard to pack	1.00	Cutbanks cave	0.10
Tensas	22	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
Dowling	18	Not limited		Very limited		Very limited	
				Ponding	1.00	Slow refill	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	1.00		

Table 19.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8:							
Arkabutla	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.47	Depth to saturated zone	1.00	Slow refill	0.53
						Cutbanks cave	0.10
				Piping	0.77		
9:							
Arkabutla	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.01		
10:							
Arkabutla	45	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.09		
Falaya	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	1.00		
11:							
Askew	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.97	Cutbanks cave	0.10
				Depth to saturated zone	0.86	Depth to saturated zone	0.06
				Seepage	0.03		
12:							
Askew	90	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Piping	0.97	Cutbanks cave	0.10
				Depth to saturated zone	0.86	Depth to saturated zone	0.06
				Seepage	0.03		
13:							
Beulah	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
14:							
Beulah	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
15:							
Bruno	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
16:							
Dubbs	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.74	Depth to water	1.00
17:							
Dubbs	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.74	Depth to water	1.00
18:							
Dubbs	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.66	Depth to water	1.00

Table 19.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
19:							
Dubbs	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.74	Depth to water	1.00
Dundee	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.84	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.55	Depth to saturated zone	0.07
20:							
Dubbs	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.74	Depth to water	1.00
Urban land	35	Not limited		Not rated		Not rated	
Dundee	20	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.84	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.22	Depth to saturated zone	0.07
21:							
Dundee	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	0.84	Slow refill	0.28
						Cutbanks cave	0.10
				Piping	0.64	Depth to saturated zone	0.07
22:							
Falaya	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Cutbanks cave	0.50
						Slow refill	0.28
				Piping	1.00		
23:							
Dowling	100	Not limited		Very limited		Very limited	
				Ponding	1.00	Slow refill	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	1.00		
24:							
Oaklimeter	95	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Piping	1.00	Slow refill	0.28
				Depth to saturated zone	0.99	Cutbanks cave	0.10
						Depth to saturated zone	0.01
25:							
Pits	75	Not limited		Not rated		Not rated	
Udorthents	25	Not limited		Not rated		Not rated	
26:							
Silverdale	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Cutbanks cave	1.00
				Depth to saturated zone	0.86	Slow refill	0.28
				Seepage	0.75	Depth to saturated zone	0.06

Table 19.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27:							
Tensas	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
				Hard to pack	0.45	Depth to saturated zone	0.01
28:							
Tensas	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
29:							
Tensas	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
30:							
Tensas	54	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
Alligator	34	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
				Hard to pack	1.00		
31:							
Tensas	40	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to saturated zone	0.01
Urban land	35	Not limited		Not rated		Not rated	
Alligator	20	Not limited		Very limited		Somewhat limited	
				Depth to saturated zone	1.00	Slow refill	0.96
						Cutbanks cave	0.10
				Hard to pack	1.00		
32:							
Tutwiler	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	1.00	Depth to water	1.00
33:							
Tutwiler	85	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	1.00	Depth to water	1.00
34:							
Urban land	100	Not limited		Not rated		Not rated	

Table 20.--Water Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1:							
Collins	90	Not limited		Very limited		Somewhat limited	
				K factor	1.00	Depth to saturated zone	0.81
						Occasional flooding	0.60
2:							
Collins	90	Not limited		Very limited		Somewhat limited	
				K factor	1.00	Depth to saturated zone	0.81
						Occasional flooding	0.60
3:							
Alfic Udarents	95	Not limited		Somewhat limited		Very limited	
				K factor	0.12	Caving likely	1.00
						Depth to saturated zone	0.14
4:							
Alligator	90	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
						Too clayey	1.00
5:							
Alligator	90	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
				Slope	0.04	Too clayey	1.00
6:							
Alligator	95	Not limited		Very limited		Very limited	
				Ponding	1.00	Ponding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
						Too clayey	1.00
7:							
Alligator	50	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
						Too clayey	1.00
						Frequent flooding	0.80

Table 20.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7:							
Tensas	22	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Frequent flooding	0.80
						Too clayey	0.50
Dowling	18	Not limited		Very limited		Very limited	
				Ponding	1.00	Ponding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
						Too clayey	1.00
						Occasional flooding	0.60
8:							
Arkabutla	95	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00		
9:							
Arkabutla	95	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Occasional flooding	0.60
10:							
Arkabutla	45	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Frequent flooding	0.80
Falaya	40	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Frequent flooding	0.80
11:							
Askew	90	Not limited		Very limited		Somewhat limited	
				K factor	1.00	Depth to saturated zone	0.99
				Depth to saturated zone	1.00		
12:							
Askew	90	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	0.99
				Depth to saturated zone	1.00		
				Slope	0.04		
13:							
Beulah	90	Not limited		Not limited		Very limited	
						Caving likely	1.00
14:							
Beulah	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Caving likely	1.00

Table 20.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15:							
Bruno	95	Not limited		Very limited		Very limited	
				Too Sandy	1.00	Caving likely	1.00
						Occasional flooding	0.60
						Depth to saturated zone	0.13
16:							
Dubbs	90	Not limited		Very limited		Not limited	
				K factor	1.00		
17:							
Dubbs	95	Somewhat limited		Very limited		Not limited	
		Slope	0.04	K factor	1.00		
				Slope	0.04		
18:							
Dubbs	95	Somewhat limited		Very limited		Not limited	
		Slope	0.63	K factor	1.00		
				Slope	0.63		
19:							
Dubbs	55	Somewhat limited		Very limited		Not limited	
		Slope	0.04	K factor	1.00		
				Slope	0.04		
Dundee	35	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	0.99
				Depth to saturated zone	1.00		
				Slope	0.04		
20:							
Dubbs	40	Somewhat limited		Very limited		Not limited	
		Slope	0.04	K factor	1.00		
				Slope	0.04		
Urban land	35	Not rated		Not rated		Not rated	
Dundee	20	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	0.99
				Depth to saturated zone	1.00		
				Slope	0.04		
21:							
Dundee	95	Not limited		Very limited		Somewhat limited	
				K factor	1.00	Depth to saturated zone	0.99
				Depth to saturated zone	1.00		
22:							
Falaya	95	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00		
						Occasional flooding	0.60
						Caving possible	0.50

Table 20.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23:							
Dowling	100	Not limited		Very limited		Very limited	
				Ponding	1.00	Ponding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.12	Too clayey	1.00
						Frequent flooding	0.80
24:							
Oaklimeter	95	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Occasional flooding	0.60
25:							
Pits	75	Not rated		Not rated		Not rated	
Udorthents	25	Not rated		Not rated		Not rated	
26:							
Silverdale	95	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Caving likely	1.00
						Depth to saturated zone	0.99
						Occasional flooding	0.60
27:							
Tensas	85	Not limited		Very limited		Very limited	
				K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Too clayey	0.50
28:							
Tensas	85	Somewhat limited		Very limited		Very limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Too clayey	0.50
				Slope	0.04		
29:							
Tensas	85	Somewhat limited		Very limited		Very limited	
		Slope	0.84	K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Too clayey	0.50
				Slope	0.84		
30:							
Tensas	54	Somewhat limited		Very limited		Very limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Occasional flooding	0.60
				Slope	0.04	Too clayey	0.50

Table 20.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Constructing grassed waterways and surface drains		Constructing terraces and diversions		Tile drains and underground outlets	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30:							
Alligator	34	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
				Slope	0.04	Too clayey	1.00
						Occasional flooding	0.60
31:							
Tensas	40	Somewhat limited		Very limited		Very limited	
		Slope	0.04	K factor	1.00	Depth to saturated zone	1.00
				Depth to saturated zone	1.00	Too clayey	0.50
				Slope	0.04		
Urban land	35	Not rated		Not rated		Not rated	
Alligator	20	Somewhat limited		Very limited		Very limited	
		Slope	0.04	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				K factor	0.88	Caving likely	1.00
				Slope	0.04	Too clayey	1.00
32:							
Tutwiler	85	Somewhat limited		Very limited		Not limited	
		Slope	0.04	K factor	1.00		
				Slope	0.04		
33:							
Tutwiler	85	Somewhat limited		Very limited		Not limited	
		Slope	0.37	K factor	1.00		
				Slope	0.37		
34:							
Urban land	100	Not rated		Not rated		Not rated	

Table 21.--Engineering Properties

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
1:												
Collins---------	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	82-91	19-31	3-10
	7-70	Silt loam, silt, silty clay loam	CL-ML, ML	A-4	0	0	100	100	93-100	80-93	16-29	2-12
2:												
Collins---------	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	82-91	19-31	3-10
	7-70	Silt loam, silt, silty clay loam	CL-ML, ML	A-4	0	0	100	100	93-100	80-93	16-29	2-12
3:												
Alfic Udarents--	0-6	Sandy loam	SC-SM, SM	A-2, A-4	0	0	98-100	93-100	66-83	32-47	20-34	6-15
	6-35	Sandy loam, sandy clay loam, clay loam	CL, SC, SC-SM, SM	A-2, A-4, A-6, A-7-6	0	0	98-100	93-100	64-89	32-54	24-43	9-25
	35-55	Loamy sand, sandy loam, clay loam	CL, ML, SC, SM	A-2, A-4, A-6, A-7	0	0	98-100	93-100	72-100	19-51	16-43	2-25
	55-80	Loamy sand, sandy loam	SC-SM, SM	A-2, A-4	0	0	98-100	93-100	72-90	19-34	16-29	2-12
4:												
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29
5:												
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
6:												
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29
7:												
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29
Tensas----------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	93-100	81-93	38-57	19-28
	11-43	Clay, silty clay	CH	A-7-6	0	0	100	100	83-100	72-92	52-80	29-46
	43-80	Very fine sandy loam, silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	76-100	47-76	20-48	6-28
Dowling---------	0-6	Mucky clay, muck	CH, MH, OH	A-7-6	0	0	100	100	72-100	71-100	55-133	29-68
	6-28	Clay, mucky clay	CH, MH, OH	A-7-6	0	0	100	100	72-100	71-100	51-109	29-72
	28-58	Clay	CH	A-7-6	0	0	100	100	82-100	81-100	68-109	44-72
8:												
Arkabutla-------	0-7	Silty clay loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	81-94	36-54	18-28
	7-62	Silt loam, silty clay loam, loam	CL, ML	A-4, A-6, A-7	0	0	100	100	86-100	79-100	17-42	3-22
9:												
Arkabutla-------	0-7	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	92-99	39-51	19-25
	7-62	Silty clay loam, loam, silt loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	29-44	13-25

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
10:												
Arkabutla-------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	81-100	18-41	2-17
	7-62	Silty clay loam, loam, silt loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	29-44	13-25
Falaya----------	0-30	Silt, silt loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	81-93	18-35	3-12
	30-70	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	86-100	79-100	17-42	3-22
11:												
Askew-----------	0-7	Silt loam	CL, CL-ML	A-4	0	0	100	100	92-100	84-99	22-40	6-10
	7-37	Loam, silty clay loam, silt loam, clay loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0	100	100	98-100	75-92	28-40	12-25
	37-78	Sandy loam, fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	72-82	35-45	20-32	6-13
12:												
Askew-----------	0-7	Silt loam	CL, CL-ML	A-4	0	0	100	100	92-100	84-99	22-40	6-10
	7-37	Loam, silty clay loam, silt loam, clay loam, fine sandy loam	CL, CL-ML	A-4, A-6	0	0	100	100	98-100	75-92	28-40	12-25
	37-78	Sandy loam, fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	72-82	35-45	20-32	6-13
13:												
Beulah----------	0-8	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	100	87-97	35-51	17-31	2-10
	8-38	Fine sandy loam, very fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	87-96	43-52	18-28	3-10
	38-64	Loamy sand, sand, loamy fine sand, fine sandy loam	SM, SP-SM	A-2, A-3, A-4	0	0	100	100	76-84	20-28	15-25	1-7

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
14:												
Beulah----------	0-8	Fine sandy loam	SC-SM, SM	A-2, A-4	0	0	100	100	87-97	35-51	17-31	2-10
	8-38	Fine sandy loam, very fine sandy loam, loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	87-96	43-52	18-28	3-10
	38-64	Loamy sand, sand, loamy fine sand, fine sandy loam	SM, SP-SM	A-2, A-3, A-4	0	0	100	100	76-84	20-28	15-25	1-7
15:												
Bruno-----------	0-12	Loamy sand	SM	A-2	0	0	100	100	76-80	22-26	16-25	1-4
	12-28	Sand, loamy sand, loamy fine sand	SM, SP-SM	A-2	0	0	100	100	74-80	7-13	0-21	NP-4
	28-62	Sand	SM, SP-SM	A-2, A-3	0	0	100	100	74-80	7-13	0-21	NP-4
16:												
Dubbs-----------	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-33	2-10
	7-36	Silty clay loam, clay loam, silt loam, loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	31-46	13-25
	36-75	Loam, silt loam, very fine sandy loam, fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	70-85	20-36	6-17
17:												
Dubbs-----------	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-33	2-10
	7-36	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	31-46	13-25
	36-75	Loam, silt loam, very fine sandy loam, fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	70-85	20-36	6-17

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
18:												
Dubbs	0-7	Very fine sandy loam	CL, CL-ML, ML	A-4	0	0	100	100	87-100	56-78	17-33	2-10
	7-36	Silty clay loam, clay loam, silt loam, fine sandy loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	31-46	13-25
	36-75	Loam, silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	70-85	20-36	6-17
19:												
Dubbs	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-33	2-10
	7-36	Silty clay loam, clay loam, silt loam, fine sandy loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	31-46	13-25
	36-75	Loam, silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	70-85	20-36	6-17
Dundee	0-8	Loam	CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-31	2-10
	8-26	Loam, silty clay loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	100	100	92-100	72-88	29-45	12-24
	26-70	Loam, very fine sandy loam, silt loam	CL, CL-ML, ML	A-4	0	0	100	100	96-100	76-83	27-36	12-17
20:												
Dubbs	0-7	Loam	CL, CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-33	2-10
	7-36	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	100	91-100	87-100	31-46	13-25
	36-75	Loam, silt loam, very fine sandy loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	92-100	70-85	20-36	6-17

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
20:												
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---
Dundee----------	0-8	Loam	CL, CL-ML, ML	A-4	0	0	100	100	81-100	76-96	21-31	2-10
	8-26	Loam, silty clay loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	100	100	92-100	72-88	29-45	12-24
	26-70	Loam, very fine sandy loam, silt loam	ML, CL, CL-ML	A-4	0	0	100	100	96-100	76-83	27-36	12-17
21:												
Dundee----------	0-8	Loam	CL-ML, ML	A-4	0	0	100	100	93-100	69-82	17-31	2-10
	8-26	Loam, silty clay loam, clay loam, sandy clay loam	CL	A-6, A-7	0	0	100	100	92-100	72-88	29-45	12-24
	26-70	Loam, very fine sandy loam, silt loam	CL, CL-ML, ML	A-4	0	0	100	100	96-100	76-83	27-36	12-17
22:												
Falaya----------	0-30	Silt, silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	92-100	18-35	3-10
	30-70	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	86-100	79-100	17-42	3-22
23:												
Dowling---------	0-6	Mucky clay, muck	CH, MH, OH	A-7-6	0	0	100	100	72-100	71-100	55-133	29-68
	6-58	Clay, mucky clay	CH	A-7-6	0	0	100	100	82-100	81-100	68-109	44-72
24:												
Oaklimeter------	0-12	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	96-100	88-94	21-31	6-10
	12-34	Very fine sandy loam, silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	94-100	54-65	18-30	3-12
	34-62	Silt loam, silty clay loam	CL, CL-ML, ML	A-4	0	0	100	100	88-100	81-100	18-40	3-21

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
25:												
Pits	0-4	Variable	---	---	---	---	---	---	---	---	---	---
Udorthents	0-4	Variable	---	---	---	---	---	---	---	---	---	---
26:												
Silverdale	0-5	Loamy fine sand	SM	A-2-4	0	0	100	100	93-96	33-36	0-20	NP-2
	5-28	Sand, coarse sand	SM, SP-SM	A-2-4, A-3	0	0	100	100	76-79	8-11	0-19	NP-2
	28-80	Silt loam, silty clay loam, loam	CL	A-6	0	0	100	100	84-100	69-89	20-40	6-21
27:												
Tensas	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	93-100	81-93	38-57	19-28
	11-43	Clay, silty clay, clay loam	CH	A-7-6	0	0	100	100	86-100	80-100	52-80	29-46
	43-80	Very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-100	65-94	20-48	6-28
28:												
Tensas	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	93-100	81-93	38-57	19-28
	11-43	Clay, silty clay, clay loam	CH	A-7-6	0	0	100	100	83-100	72-92	52-80	29-46
	43-65	Very fine sandy loam, silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	76-100	47-76	20-48	6-28
	65-80	Very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-100	64-93	20-48	6-28

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
29:												
Tensas----------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	93-100	81-93	38-57	19-28
	11-43	Clay, silty clay, clay loam	CH	A-7-6	0	0	100	100	83-100	72-92	52-80	29-46
	43-65	Very fine sandy loam, silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	76-100	47-76	20-48	6-28
	65-80	Very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-100	64-93	20-48	6-28
30:												
Tensas----------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	92-100	81-94	38-58	19-28
	11-43	Clay, silty clay, clay loam	CH	A-7-6	0	0	100	100	83-100	72-92	52-80	29-46
	43-65	Very fine sandy loam, silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	76-100	47-76	20-48	6-28
	65-80	Very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-100	64-93	20-48	6-28
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
31:												
Tensas----------	0-11	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	92-100	81-94	38-58	19-28
	11-43	Clay, silty clay, clay loam	CH	A-7-6	0	0	100	100	83-100	72-92	52-80	29-46
	43-65	Very fine sandy loam, silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	76-100	47-76	20-48	6-28
	65-80	Very fine sandy loam, silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	75-100	64-93	20-48	6-28
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---
Alligator-------	0-7	Clay	CH	A-7	0	0	100	100	86-100	80-100	51-76	29-43
	7-52	Clay	CH	A-7	0	0	100	100	85-100	84-100	68-105	44-68
	52-76	Silty clay, clay	CH	A-7	0	0	100	100	70-100	69-100	56-105	33-68
	76-84	Silty clay loam, clay loam, loam	CL	A-6, A-7	0	0	100	100	80-100	62-84	29-50	12-29
32:												
Tutwiler--------	0-9	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	94-100	56-63	20-31	4-10
	9-26	Very fine sandy loam, loam, silt loam	CL-ML, ML	A-4	0	0	100	100	94-100	56-63	18-27	4-10
	26-65	Loam, silt loam, fine sandy loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	100	100	96-100	72-80	18-28	4-10

Table 21.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				*Pct*	*Pct*					*Pct*	
33:												
Tutwiler--------	0-9	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	94-100	56-63	20-31	4-10
	9-26	Very fine sandy loam, loam, silt loam	CL-ML, ML	A-4	0	0	100	100	94-100	56-63	18-27	4-10
	26-65	Loam, silt loam, fine sandy loam, very fine sandy loam, loamy very fine sand	CL-ML, ML	A-4	0	0	100	100	96-100	72-80	18-28	4-10
34:												
Urban land------	0-6	Variable	---	---	---	---	---	---	---	---	---	---

Table 22.--Physical Soil Properties

[Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*g/cc*	*µm/sec*	*In/hr*	*In/in*	*Pct*	*Pct*					
1:														
Collins	0-7	---	7-16	1.40-1.50	4.23-14.11	0.6-2	0.16-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	48
	7-70	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.24	0.0-2.9	0.1-0.3	.43	.43			
2:														
Collins	0-7	---	7-16	1.40-1.50	4.23-14.11	0.6-2	0.16-0.24	0.0-2.9	0.5-2.0	.43	.43	5	5	48
	7-70	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.24	0.0-2.9	0.1-0.3	.43	.43			
3:														
Alfic Udarents	0-6	---	10-22	1.30-1.50	4.23-42.34	0.6-6	0.05-0.15	0.0-2.9	0.0-1.0	.24	.24	5	3	86
	6-35	---	15-35	1.40-1.50	1.41-4.23	0.2-0.6	0.10-0.20	0.0-2.9	---	.24	.24			
	35-55	---	5-35	1.30-1.50	1.41-42.34	0.2-6	0.05-0.20	0.0-2.9	---	.24	.24			
	55-80	---	5-18	1.40-1.50	4.23-42.34	0.6-6	0.05-0.17	0.0-2.9	---	.24	.24			
4:														
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			
5:														
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			
6:														
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			
7:														
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			
Tensas	0-11	---	27-39	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-45	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			

Table 22.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*g/cc*	*µm/sec*	*In/hr*	*In/in*	*Pct*	*Pct*					
7:														
Dowling	0-6	0-3	40-95	0.80-1.45	0.00-0.42	0.00-0.06	0.18-0.20	9.0-25.0	2.0-15	.20	.20	5	4	86
	6-28	0-3	40-95	0.80-1.45	0.00-0.42	0.00-0.06	0.18-0.20	9.0-25.0	0.0-0.5	.20	.20			
	28-58	0-3	60-95	1.10-1.35	0.00-0.42	0.00-0.06	0.18-0.20	9.0-25.0	0.0-0.5	.24	.24			
8:														
Arkabutla	0-7	---	27-35	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-3.0	.49	.49	5	7	86
	7-62	---	6-32	1.40-1.55	0.42-14.11	0.06-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
9:														
Arkabutla	0-7	---	28-35	1.40-1.50	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	1.0-3.0	.37	.37	5	7	86
	7-62	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.21	0.0-2.9	0.0-0.5	.32	.32			
10:														
Arkabutla	0-7	---	5-25	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	48
	7-62	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.21	0.0-2.9	0.0-0.5	.32	.32			
Falaya	0-30	---	6-18	1.25-1.45	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-3.0	.49	.49	5	5	48
	30-70	---	6-32	1.25-1.50	0.42-14.11	0.06-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
11:														
Askew	0-7	---	10-25	1.35-1.50	4.23-14.11	0.6-2	0.13-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	48
	7-37	---	18-35	1.35-1.55	4.23-14.11	0.6-2	0.13-0.20	0.0-2.9	0.5-1.0	.37	.37			
	37-78	---	10-20	1.35-1.60	4.23-42.34	0.6-6	0.10-0.19	0.0-2.9	0.0-0.5	.24	.24			
12:														
Askew	0-7	---	10-25	1.35-1.50	4.23-14.11	0.6-2	0.13-0.20	0.0-2.9	1.0-3.0	.37	.37	5	5	48
	7-37	---	18-35	1.35-1.55	4.23-14.11	0.6-2	0.13-0.20	0.0-2.9	0.5-1.0	.37	.37			
	37-78	---	10-20	1.35-1.60	4.23-42.34	0.6-6	0.10-0.19	0.0-2.9	0.0-0.5	.24	.24			
13:														
Beulah	0-8	---	5-15	1.30-1.50	14.11-42.34	2-6	0.10-0.14	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	8-38	---	7-16	1.25-1.50	14.11-42.34	2-6	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	38-64	---	4-12	1.35-1.60	42.34-141.14	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
14:														
Beulah	0-8	---	5-15	1.30-1.50	14.11-42.34	2-6	0.10-0.14	0.0-2.9	0.5-2.0	.20	.20	5	3	86
	8-38	---	7-16	1.25-1.50	14.11-42.34	2-6	0.12-0.17	0.0-2.9	0.0-0.5	.20	.20			
	38-64	---	4-12	1.35-1.60	42.34-141.14	6-20	0.06-0.11	0.0-2.9	0.0-0.5	.17	.17			
15:														
Bruno	0-12	---	4-8	1.40-1.60	42.34-141.14	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.15	.15	2	2	134
	12-28	---	2-8	1.40-1.60	42.34-141.14	6-20	0.05-0.10	0.0-2.9	0.1-0.5	.15	.15			
	28-62	---	2-8	1.40-1.60	42.34-141.14	6-20	0.02-0.05	0.0-2.9	0.1-0.2	.10	.10			

Table 22.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*g/cc*	*µm/sec*	*In/hr*	*In/in*	*Pct*	*Pct*					
16:														
Dubbs	0-7	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	7-36	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-75	---	10-25	1.40-1.50	14.11-42.34	2-6	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
17:														
Dubbs	0-7	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	7-36	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-75	---	10-25	1.40-1.50	14.11-42.34	2-6	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
18:														
Dubbs	0-7	---	5-27	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	7-36	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-75	---	10-25	1.40-1.50	14.11-42.34	2-6	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
19:														
Dubbs	0-7	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	7-36	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-75	---	10-25	1.40-1.50	14.11-42.34	2-6	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
Dundee	0-8	---	5-18	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.37	.37	5	5	48
	8-26	---	18-34	1.30-1.70	1.41-4.23	0.2-0.6	0.15-0.20	3.0-5.9	0.5-1.0	.32	.32			
	26-70	---	18-25	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.32	.32			
20:														
Dubbs	0-7	---	5-18	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.37	.37	5	5	48
	7-36	---	20-35	1.45-1.55	4.23-14.11	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	36-75	---	10-25	1.40-1.50	14.11-42.34	2-6	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
Urban land	0-6	---	---	---	---	---	---	---	---	---	---	1	5	56
Dundee	0-8	---	10-30	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.43	.43	5	5	48
	8-26	---	18-34	1.30-1.70	1.41-4.23	0.2-0.6	0.15-0.20	3.0-5.9	0.5-1.0	.32	.32			
	26-70	---	18-25	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.32	.32			
21:														
Dundee	0-8	---	5-18	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.37	.37	5	5	48
	8-26	---	18-34	1.30-1.70	1.41-4.23	0.2-0.6	0.15-0.20	3.0-5.9	0.5-1.0	.32	.32			
	26-70	---	18-25	1.30-1.70	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.5-1.0	.32	.32			
22:														
Falaya	0-30	---	6-18	1.25-1.45	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-3.0	.49	.49	5	7	38
	30-70	---	6-32	1.25-1.50	0.42-14.11	0.06-2	0.14-0.22	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*g/cc*	*µm/sec*	*In/hr*	*In/in*	*Pct*	*Pct*					
23:														
Dowling	0-6	0-3	40-95	0.80-1.45	0.00-0.42	0.00-0.06	0.18-0.20	9.0-25.0	2.0-15	.20	.20	5	4	86
	6-58	0-3	60-95	1.10-1.35	0.00-0.42	0.00-0.06	0.18-0.20	9.0-25.0	0.0-0.5	.24	.24			
24:														
Oaklimeter	0-12	---	10-16	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.43	.43	5	5	48
	12-34	---	7-18	1.40-1.50	4.23-14.11	0.6-2	0.15-0.20	0.0-2.9	0.0-0.5	.43	.43			
	34-62	---	7-30	1.40-1.50	4.23-14.11	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.43	.43			
25:														
Pits	0-4	---	---	---	0.00-0.00	0.00-0.00	---	0.0-0.0	0.0-0.0	.02	.02	1	8	0
Udorthents	0-4	---	---	---	---	---	---	0.0-0.0	---	---	---	1	8	0
26:														
Silverdale	0-5	---	2-5	1.45-1.70	42.34-141.14	6-20	0.10-0.15	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	5-28	---	2-5	1.45-1.70	42.34-141.14	6-20	0.06-0.07	0.0-2.9	0.0-0.5	.15	.15			
	28-80	---	10-30	1.40-1.70	4.23-14.11	0.6-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
27:														
Tensas	0-11	---	27-39	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-20	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
28:														
Tensas	0-11	---	27-39	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-45	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-65	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
	65-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
29:														
Tensas	0-11	---	27-39	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-45	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-65	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
	65-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
30:														
Tensas	0-11	---	27-40	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-45	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-65	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
	65-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			

Table 22.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*g/cc*	*µm/sec*	*In/hr*	*In/in*	*Pct*	*Pct*					
31:														
Tensas	0-11	---	27-40	1.25-1.45	1.41-4.23	0.2-0.6	0.15-0.19	3.0-5.9	0.5-4.0	.37	.37	5	7	86
	11-43	0-45	40-60	1.20-1.50	0.00-0.42	0.00-0.06	0.15-0.19	9.0-25.0	0.5-1.0	.32	.32			
	43-65	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
	65-80	---	10-39	1.30-1.70	1.41-14.11	0.2-2	0.20-0.23	0.0-2.9	0.0-0.5	.37	.37			
Urban land	0-6	---	---	---	---	---	---	---	---	---	---	1	8	0
Alligator	0-7	3-12	40-60	1.40-1.50	0.00-0.42	0.00-0.06	0.10-0.20	6.0-8.9	1.0-4.0	.32	.32	5	4	86
	7-52	0-3	60-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	52-76	0-5	45-90	1.20-1.55	0.00-0.42	0.00-0.06	0.07-0.14	9.0-25.0	0.0-0.5	.24	.24			
	76-84	---	18-40	1.30-1.70	1.41-4.23	0.2-0.6	0.12-0.22	3.0-5.9	0.0-0.5	.24	.24			
32:														
Tutwiler	0-9	---	8-15	1.40-1.50	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.37	.37	5	3	86
	9-26	---	8-15	1.40-1.50	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.37	.37			
	26-65	---	8-16	1.40-1.50	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.24	.24			
33:														
Tutwiler	0-9	---	8-15	1.40-1.55	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.5-2.0	.37	.37	5	3	86
	9-26	---	8-15	1.40-1.55	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.37	.37			
	26-65	---	8-16	1.55-1.65	4.23-14.11	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.24	.24			
34:														
Urban land	0-6	---	---	---	0.00-0.00	0.00-0.00	---	---	0.0-0.0	.02	.02	1	8	0

Table 23.--Chemical Soil Properties

[Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	Inches	*meq/100 g*	*meq/100 g*	*pH*
1:				
Collins	0-7	---	1.6-5.0	4.5-5.5
	7-70	---	1.4-7.4	4.5-5.5
2:				
Collins	0-7	---	1.6-5.0	4.5-5.5
	7-70	---	1.4-7.4	4.5-5.5
3:				
Alfic Udarents	0-6	---	0.8-7.2	3.6-5.5
	6-35	---	---	3.6-5.5
	35-55	---	---	3.6-5.5
	55-80	---	---	3.6-5.5
4:				
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4
5:				
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4
6:				
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4
7:				
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-80	2.0-20	---	5.1-7.3
Dowling	0-6	32-132	---	5.6-7.3
	6-28	6.7-43	---	5.6-7.3
	28-58	9.5-43	---	6.1-8.4
8:				
Arkabutla	0-7	---	7.4-14	4.5-5.5
	7-62	---	1.6-16	4.5-5.5
9:				
Arkabutla	0-7	---	7.7-11	4.5-5.5
	7-62	---	6.4-18	4.5-5.5
10:				
Arkabutla	0-7	---	1.1-7.7	4.5-5.5
	7-62	---	6.4-18	4.5-5.5

Table 23.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	Inches	*meq/100 g*	*meq/100 g*	*pH*
10:				
Falaya	0-30	---	1.3-5.7	4.5-5.5
	30-70	---	1.6-16	4.5-5.5
11:				
Askew	0-7	5.4-14	---	5.1-6.0
	7-37	9.6-19	---	4.5-6.0
	37-78	---	2.9-9.5	4.5-6.0
12:				
Askew	0-7	5.4-14	---	5.1-6.0
	7-37	9.6-19	---	4.5-6.0
	37-78	5.1-11	---	4.5-6.0
13:				
Beulah	0-8	---	1.1-4.6	4.5-6.0
	8-38	---	1.9-7.3	4.5-6.0
	38-64	2.1-6.4	---	5.1-7.3
14:				
Beulah	0-8	---	1.1-4.6	4.5-6.0
	8-38	---	1.9-7.3	4.5-6.0
	38-64	2.1-6.4	---	5.1-7.3
15:				
Bruno	0-12	3.3-6.8	---	5.1-8.4
	12-28	1.5-6.1	---	5.1-8.4
	28-62	1.5-5.6	---	5.1-8.4
16:				
Dubbs	0-7	2.7-9.8	---	5.1-6.0
	7-36	10-18	---	5.1-6.0
	36-75	5.1-13	---	5.1-6.0
17:				
Dubbs	0-7	2.7-9.8	---	5.1-6.0
	7-36	10-18	---	5.1-6.0
	36-75	5.1-13	---	5.1-6.0
18:				
Dubbs	0-7	2.7-15	---	5.1-6.0
	7-36	10-18	---	5.1-6.0
	36-75	5.1-13	---	5.1-6.0
19:				
Dubbs	0-7	2.7-9.8	---	5.1-6.0
	7-36	10-18	---	5.1-6.0
	36-75	5.1-13	---	5.1-6.0
Dundee	0-8	---	1.2-5.7	4.5-6.0
	8-26	---	5.7-17	4.5-6.0
	26-70	9.1-13	---	4.5-7.3
20:				
Dubbs	0-7	---	1.1-5.7	4.5-6.0
	7-36	---	6.4-18	4.5-6.0
	36-75	---	2.9-12	4.5-6.0
Urban land	0-6	---	---	---

Table 23.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	Inches	*meq/100 g*	*meq/100 g*	*pH*
20:				
Dundee	0-8	---	2.7-10	4.5-6.0
	8-26	---	5.7-17	4.5-6.0
	26-70	9.1-13	---	4.5-7.3
21:				
Dundee	0-8	---	1.2-5.7	4.5-6.0
	8-26	---	5.7-17	4.5-6.0
	26-70	9.1-13	---	4.5-7.3
22:				
Falaya	0-30	---	1.3-5.7	4.5-5.5
	30-70	---	1.6-16	4.5-5.5
23:				
Dowling	0-6	32-132	---	5.6-7.3
	6-58	9.5-43	---	5.6-8.4
24:				
Oaklimeter	0-12	---	2.5-5.0	4.5-5.5
	12-34	---	1.9-8.4	4.5-5.5
	34-62	---	1.9-15	4.5-5.5
25:				
Pits	0-4	---	---	3.5-4.5
Udorthents	0-4	---	---	---
26:				
Silverdale	0-5	2.0-4.8	---	5.6-7.3
	5-28	1.8-4.6	---	5.6-7.3
	28-80	7.6-23	---	6.1-7.3
27:				
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-80	2.0-20	---	5.1-7.3
28:				
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-65	2.0-20	---	5.1-7.3
	65-80	2.0-20	---	5.1-7.3
29:				
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-65	2.0-20	---	5.1-7.3
	65-80	2.0-20	---	5.1-7.3
30:				
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-65	2.0-20	---	5.1-7.3
	65-80	2.0-20	---	5.1-7.3
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4

Table 23.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction
	Inches	*meq/100 g*	*meq/100 g*	*pH*
31:				
Tensas	0-11	15-40	---	4.5-7.3
	11-43	---	20-39	4.5-6.0
	43-65	2.0-20	---	5.1-7.3
	65-80	2.0-20	---	5.1-7.3
Urban land	0-6	---	---	---
Alligator	0-7	---	20-36	4.5-5.5
	7-52	---	30-53	4.5-5.5
	52-76	7.4-41	---	4.5-8.4
	76-84	3.4-20	---	6.6-8.4
32:				
Tutwiler	0-9	---	1.9-4.6	4.5-6.0
	9-26	---	2.2-6.8	4.5-6.0
	26-65	---	2.2-7.3	4.5-6.0
33:				
Tutwiler	0-9	---	1.9-4.6	4.5-6.0
	9-26	---	2.2-6.8	4.5-6.0
	26-65	---	2.2-7.3	4.5-6.0
34:				
Urban land	0-6	---	---	3.5-4.5

Table 24.--Risk of Corrosion

[See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Risk of corrosion	
	Uncoated steel	Concrete
1:		
Collins	Moderate	Moderate
2:		
Collins	Moderate	Moderate
3:		
Alfic Udarents	Moderate	Moderate
4:		
Alligator	High	Moderate
5:		
Alligator	High	Moderate
6:		
Alligator	High	Moderate
7:		
Alligator	High	Moderate
Tensas	High	Moderate
Dowling	High	Low
8:		
Arkabutla	High	Moderate
9:		
Arkabutla	High	High
10:		
Arkabutla	High	High
Falaya	High	Moderate
11:		
Askew	High	Moderate
12:		
Askew	High	Moderate
13:		
Beulah	Low	Moderate
14:		
Beulah	Low	Moderate
15:		
Bruno	Low	Low
16:		
Dubbs	Moderate	Moderate

Table 24.--Risk of Corrosion--Continued

Map symbol and soil name	Risk of corrosion	
	Uncoated steel	Concrete
17:		
Dubbs	Moderate	Moderate
18:		
Dubbs	Moderate	Moderate
19:		
Dubbs	Moderate	Moderate
Dundee	High	Moderate
20:		
Dubbs	Moderate	Moderate
Urban land.		
Dundee	High	Moderate
21:		
Dundee	High	Moderate
22:		
Falaya	High	Moderate
23:		
Dowling	High	Low
24:		
Oaklimeter	Moderate	High
25:		
Pits.		
Udorthents.		
26:		
Silverdale	Moderate	Moderate
27:		
Tensas	High	Moderate
28:		
Tensas	High	Moderate
29:		
Tensas	High	Moderate
30:		
Tensas	High	Moderate
Alligator	High	Moderate
31:		
Tensas	High	Moderate
Urban land.		
Alligator	High	Moderate
32:		
Tutwiler	Moderate	High

Table 24.--Risk of Corrosion--Continued

Map symbol and soil name	Risk of corrosion	
	Uncoated steel	Concrete
33:		
Tutwiler	Moderate	High
34:		
Urban land.		

Table 25.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
1:										
Collins	B	Low								
			Jan-Apr	2.0-3.0	>6.0	0.0-0.0	---	None	Brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	---	---	0.0-0.0	---	None	---	---
2:										
Collins	B	Low								
			Jan-Apr	2.0-3.0	>6.0	0.0-0.0	---	None	Long	Occasional
			May-Dec	---	---	0.0-0.0	---	None	---	---
3:										
Alfic Udarents	C	---								
			Jan-Apr	2.0-5.0	>6.0	0.0-0.0	---	None	Brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	2.0-5.0	>6.0	0.0-0.0	---	None	Brief	Rare
4:										
Alligator	D	Very high								
			Jan-Apr	0.5-2.0	>6.0	0.0-0.0	---	None	Long	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	0.5-2.0	>6.0	0.0-0.0	---	None	Long	Rare
5:										
Alligator	D	Very high								
			Jan-Apr	0.5-2.0	>6.0	0.0-0.0	---	None	Long	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	0.5-2.0	>6.0	0.0-0.0	---	None	Long	Rare
6:										
Alligator	D	Negligible								
			Jan-Apr	1.0-3.0	>6.0	0.3-2.1	Long	Frequent	Long	Frequent
			May-Jul	---	---	---	---	---	---	None
			Aug-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.3-2.1	Long	Frequent	Long	Frequent

Table 25.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
7:										
Alligator	D	Very high								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Very long	Frequent
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Very long	Frequent
Tensas	D	Medium								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Brief	Frequent
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Brief	Frequent
Dowling	D	Negligible								
			Jan-Apr	1.0-1.5	>6.0	0.0-0.0	Very long	Frequent	Long	Frequent
			May-Nov	0.0	---	0.0-0.0	---	---	---	---
			December	1.0-1.5	>6.0	0.0-0.0	Very long	Frequent	Long	Frequent
8:										
Arkabutla	C/D	Very high								
			Jan-Apr	1.0-2.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	---	---	0.0-0.0	---	None	---	---
9:										
Arkabutla	B/D	Very high								
			Jan-Apr	1.0-1.5	>6.0	0.0-0.0	---	None	Very long	Occasional
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-1.5	>6.0	0.0-0.0	---	None	Very long	Occasional
10:										
Arkabutla	B/D	Very high								
			Jan-Apr	1.0-1.5	>6.0	0.0-0.0	---	None	Very long	Frequent
			May-Dec	---	---	0.0-0.0	---	None	---	None
Falaya	C/D	Very high								
			Jan-Apr	1.0-2.0	>6.0	0.0-0.0	---	None	Long	Frequent
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-2.0	>6.0	0.0-0.0	---	None	Long	Frequent
11:										
Askew	B	Low								
			Jan-Apr	2.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	2.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare

Table 25.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
12:										
Askew	B	Low								
			Jan-Apr	2.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	2.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
13:										
Beulah	A	Very low								
			Jan-Apr	>6.0	---	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	>6.0	---	0.0-0.0	---	None	Very brief	Rare
14:										
Beulah	A	Very low								
			Jan-Apr	>6.0	---	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	>6.0	---	0.0-0.0	---	None	Very brief	Rare
15:										
Bruno	A	Very low								
			Jan-Apr	4.0-6.0	>6.0	0.0-0.0	---	None	Brief	Occasional
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	4.0-6.0	>6.0	0.0-0.0	---	None	Brief	Occasional
16:										
Dubbs	B	Low								
			Jan-Dec	>6.0	---	0.0-0.0	---	None	Very brief	Rare
17:										
Dubbs	B	Low								
			Jan-Dec	>6.0	---	0.0-0.0	---	None	Very brief	Rare
18:										
Dubbs	B	Low								
			Jan-Dec	>6.0	---	0.0-0.0	---	None	Very brief	Rare
19:										
Dubbs	B	Low								
			Jan-Dec	>6.0	---	0.0-0.0	---	None	Very brief	Rare
Dundee	C	Medium								
			Jan-Apr	1.5-3.5	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Dec	---	---	0.0-0.0	---	None	---	None

Table 25.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
20:										
Dubbs	B	Low								
			Jan-Dec	>6.0	---	0.0-0.0	---	None	Very brief	Rare
Urban land	D	Negligible								
			Jan-Dec	---	---	0.0-0.0	---	None	---	None
Dundee	C	Medium								
			Jan-Apr	1.5-3.5	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Dec	---	---	0.0-0.0	---	None	---	None
21:										
Dundee	C	Medium								
			Jan-Apr	1.5-3.5	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Dec	---	---	0.0-0.0	---	None	---	None
22:										
Falaya	C/D	Very high								
			Jan-Apr	1.0-2.0	>6.0	0.0-0.0	---	None	Long	Occasional
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-2.0	>6.0	0.0-0.0	---	None	Long	Occasional
23:										
Dowling	D	Negligible								
			Jan-Dec	1.0-1.5	>6.0	0.0-2.0	Very long	Frequent	Very long	Frequent
24:										
Oaklimeter	B	Low								
			Jan-Mar	1.5-2.5	>6.0	0.0-0.0	---	None	Very long	Occasional
			Apr-Oct	1.5-2.5	>6.0	0.0-0.0	---	None	Very long	Occasional
			November	1.5-2.5	>6.0	0.0-0.0	---	None	Very long	Occasional
			December	1.5-2.5	>6.0	0.0-0.0	---	None	Very long	Occasional
25:										
Pits	A	Negligible								
			Jan-Dec	---	---	0.0-0.0	---	None	---	None
Udorthents	A	Negligible								
			Jan-Dec	---	---	0.0-0.0	---	None	---	None
26:										
Silverdale	B	Low								
			Jan-May	2.0-3.0	>6.0	0.0-0.0	---	None	Brief	Occasional
			Jun-Dec	---	---	0.0-0.0	---	None	---	None

Table 25.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
27:										
Tensas	D	Medium								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
28:										
Tensas	D	Medium								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
29:										
Tensas	D	High								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
30:										
Tensas	D	Medium								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Long	Occasional
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Long	Occasional
Alligator	D	Very high								
			Jan-Apr	0.5-2.0	>6.0	0.3-2.1	Long	Frequent	Very long	Occasional
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	0.5-2.0	>6.0	0.3-2.1	Long	Frequent	Very long	Occasional
31:										
Tensas	D	Medium								
			Jan-Apr	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	1.0-3.0	>6.0	0.0-0.0	---	None	Very brief	Rare
Urban land	---	Negligible								
			Jan-Apr	---	---	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	---	---	0.0-0.0	---	None	Very brief	Rare
Alligator	D	Very high								
			Jan-Apr	0.5-2.0	>6.0	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	0.5-2.0	>6.0	0.0-0.0	---	None	Very brief	Rare

Table 25.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*	*Ft*				
32:										
Tutwiler	B	Low								
			Jan-Apr	>6.0	---	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	>6.0	---	0.0-0.0	---	None	Very brief	Rare
33:										
Tutwiler	B	Low								
			Jan-Apr	>6.0	---	0.0-0.0	---	None	Very brief	Rare
			May-Nov	---	---	0.0-0.0	---	None	---	None
			December	>6.0	---	0.0-0.0	---	None	Very brief	Rare
34:										
Urban land	---	Very low								
			Jan-Dec	---	---	0.0-0.0	---	None	---	None

Table 26.--Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Alfic Udarents	Udorthents
Alligator	Very-fine, smectitic, thermic Chromic Dystraquerts
Arkabutla	Fine-silty, mixed, active, acid, thermic Fluvaquentic Endoaquepts
Askew	Fine-silty, mixed, active, thermic Aquic Hapludalfs
Beulah	Coarse-loamy, mixed, active, thermic Typic Dystrudepts
Bruno	Sandy, mixed, thermic Typic Udifluvents
Collins	Coarse-silty, mixed, active, acid, thermic Aquic Udifluvents
Dowling	Very-fine, smectitic, nonacid, thermic Vertic Endoaquepts
Dubbs	Fine-silty, mixed, active, thermic Typic Hapludalfs
Dundee	Fine-silty, mixed, active, thermic Typic Endoaqualfs
Falaya	Coarse-silty, mixed, active, acid, thermic Aeric Fluvaquents
Oaklimeter	Coarse-silty, mixed, active, thermic Fluvaquentic Dystrudepts
Silverdale	Sandy over loamy, mixed, superactive, nonacid, thermic Aquic Udifluvents
Tensas	Fine, smectitic, thermic Chromic Vertic Epiaqualfs
Tutwiler	Coarse-silty, mixed, active, thermic Typic Hapludalfs

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