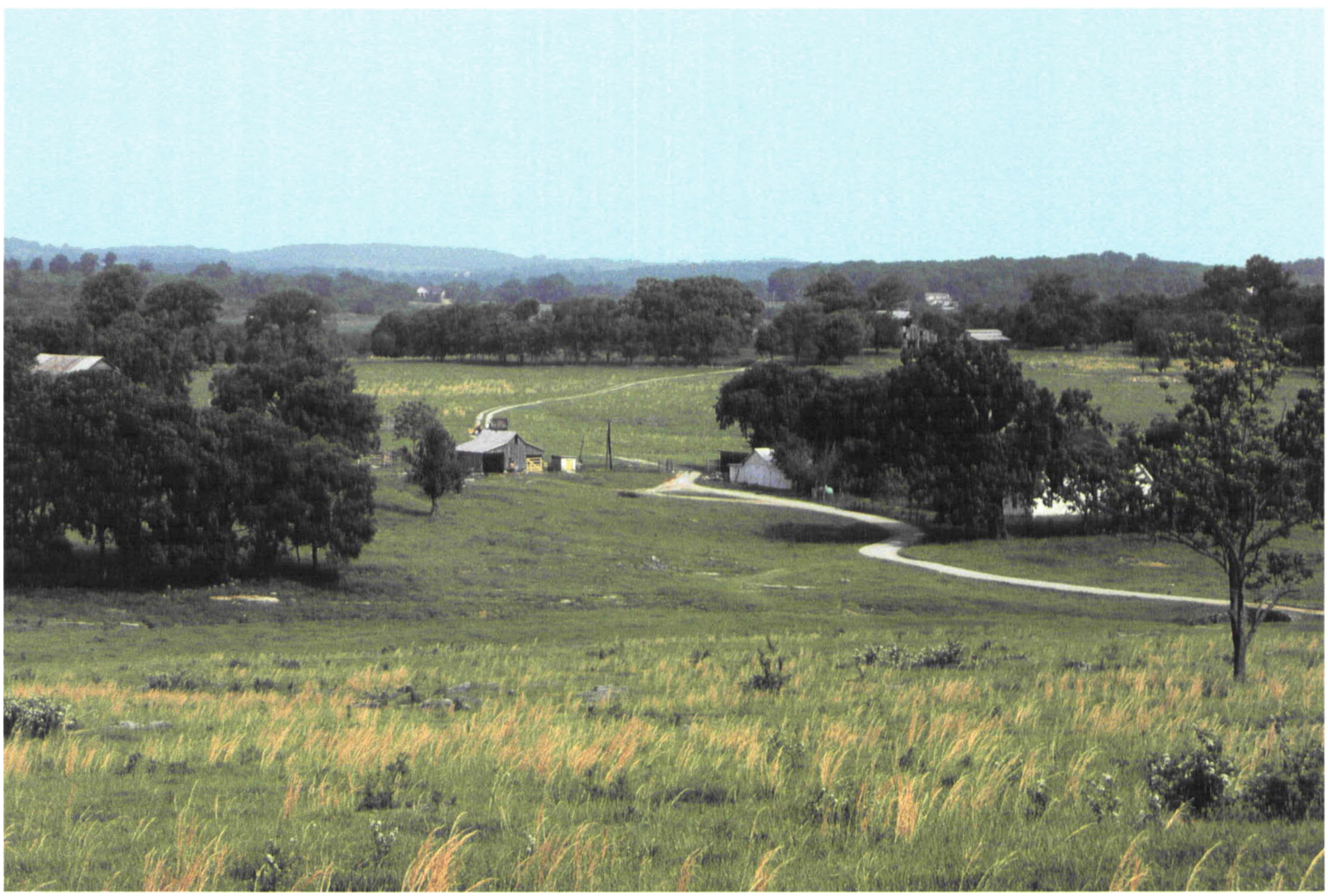
United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Tennessee Agricultural
Experiment Station

Soil Survey of Wilson County, Tennessee



How To Use This Soil Survey

General Soil Map

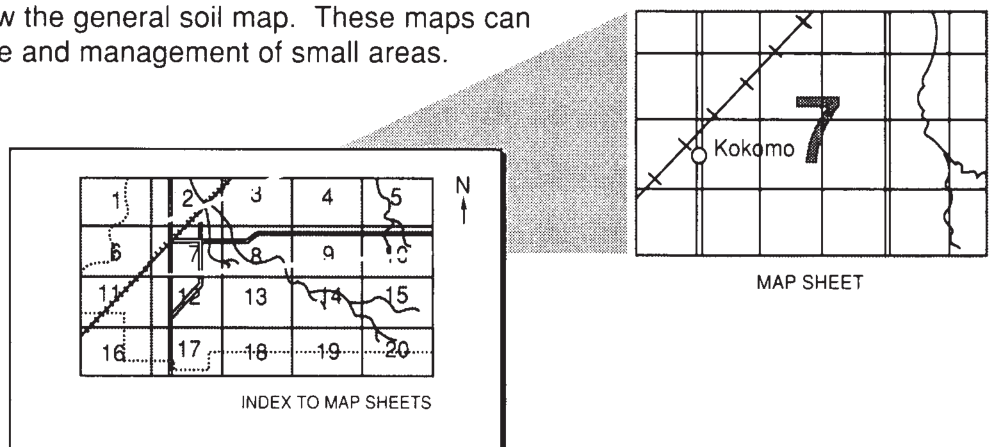
The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

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

Detailed Soil Maps

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

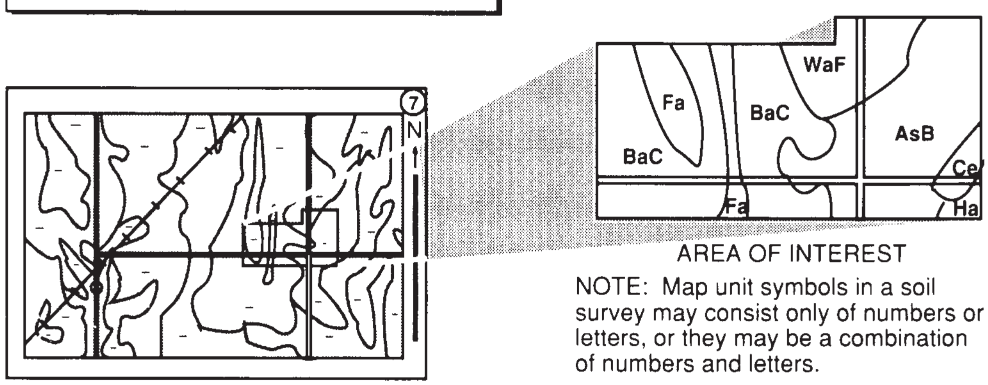
To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet, and turn to that sheet.



INDEX TO MAP SHEETS

MAP SHEET

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



MAP SHEET

AREA OF INTEREST

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

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

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The 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 1987. Soil names and descriptions were approved in 1988. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1987. This soil survey was made cooperatively by the Natural Resources Conservation Service and the Tennessee Agricultural Experiment Station, the Wilson County Board of Commissioners, and the Mid-Cumberland Council of Governments. It is part of the technical assistance furnished to the Wilson County Soil Conservation District.

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

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

Cover: Pasture in an area of Talbott silt loam, 5 to 12 percent slopes, eroded, rocky, in Wilson County.

Contents

Issued September 1996

Index to Map Units

Summary of Tables

Foreword

This soil survey contains information that can be used in land-planning programs in Wilson 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, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

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

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

Jerry S. Lee
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Soil Survey of Wilson County, Tennessee

By Jessie F. Campbell, Natural Resources Conservation Service

Fieldwork by Jessie F. Campbell, Jack D. Colflesh, Joe A. Tabor, John G. Gibi, and Jerry L. Prater, Natural Resources Conservation Service, and Daniel C. Bowden and Rector H. Moneymaker, Wilson County

United States Department of Agriculture, Natural Resources Conservation Service
in cooperation with
Tennessee Agricultural Experiment Station, Wilson County Board of Commissioners, and Mid-Cumberland Council of Governments

Wilson County is in the north-central part of middle Tennessee (fig. 1). It is bounded on the west by Davidson County, on the north by Sumner and Trousdale Counties, on the east by Smith and DeKalb Counties, and on the south by Cannon and Rutherford Counties.

Wilson County has a land area of about 365,100 acres, or 568 square miles. Lebanon, the county seat, is near the center of the county. In 1984, the population of the county was 62,400.

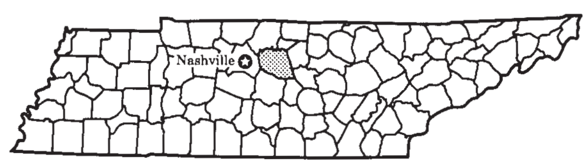

Figure 1.—Location of Wilson County in Tennessee.

General Nature of the County

This section gives general information concerning Wilson County. It describes settlement; farming; natural resources; physiography, relief, and drainage; and climate.

Settlement

The area that is now Wilson County was once part of a vast area inhabited by the Chickasaw, Choctaw, and Shawnee Indians. The first settlers arrived about 1797 (Anon. 1961). The county was formed October 26, 1799. It was named in honor of Major David Wilson. Samuel Houston was a renowned early settler who moved to Lebanon in 1818 and later began practicing law. In 1827, he was elected Governor.

Wilson County is dominantly a rural county; however, the western part of the county is rapidly becoming a bedroom community for Nashville. Farming and industry are two of the major sources of income in the county. Several small and medium-sized manufacturing plants are in the county. A large number of people who live in the county are employed in Nashville.

Farming

In 1982, about 1,963 farms were in the county. The farmland was used mostly for pasture, hay, corn, small grain, soybeans, or tobacco. The county ranked 22nd in the state in tobacco production and 30th in wheat production. Dairy products and beef cattle also are important sources of farm income. In 1985, the county ranked 7th in the state in beef cattle production and 21st in dairy production.

Natural Resources

Soil and water are the two most important natural resources in the county. The production of crops, livestock, and timber are dependent on these resources. Most of the county has an adequate supply of water for domestic uses and livestock. Major sources of water are streams, wells, ponds, and lakes. Farm ponds are an important source of water for livestock, wildlife, and recreation.

Physiography, Relief, and Drainage

Wilson County is near the center of the physiographic region known as the Central Basin of Middle Tennessee. Elevation ranges from 1,363 feet above sea level in the southeastern part of the county to 445 feet, which is the normal water level of Old Hickory Lake on the Cumberland River. About 50 percent of the county is nearly level to rolling and has an average elevation of about 600 feet.

The highest ridges and hills are capped with remnants of the Highland Rim physiographic region. These ridges and hills are made up mostly of steep, cherty soils that are suited to pasture and trees but ordinarily are not suited to cultivated crops. The soils on the lower two-thirds of these hills and on most of the other hills are rich in phosphorus. The soils in the rest of the county formed in clayey limestone residuum, in old alluvium, or in a mixture of both.

Most of the county is underlain by Mississippian-age limestone. Outcrops of limestone bedrock are common throughout most of the county. Because the underlying limestone is relatively soluble and climatic conditions favor rapid weathering of the rock, sinkholes and depressions are numerous.

The county is drained by creeks, intermittent drainageways, and underground caverns. Most of the tributary streams drain into the Cumberland River, which forms the northern boundary of the county. The eastern and southern parts of the county drain into the Stones River, which empties into the Cumberland River farther downstream.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Lebanon, Tennessee, in the period 1951 to 1984. 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 38 degrees F and the average daily minimum temperature is 26 degrees. The lowest temperature on record, which occurred at Lebanon on January 24, 1968, is -20 degrees. In summer, the average temperature is 76 degrees and the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred at Lebanon on July 17, 1980, is 104 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 52 inches. Of this, 26 inches, or 50 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 22 inches. The heaviest 1-day rainfall during the period of record was 6.51 inches at Lebanon on September 14, 1979. Thunderstorms occur on about 54 days each year.

The average seasonal snowfall is about 9 inches. The greatest snow depth at any one time during the period of record was 7 inches. On an average of 4 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 65 percent of the time possible in summer and 45 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in spring.

Severe local storms, including tornadoes, occasionally strike in or near the county. They are of short duration and cause variable, spotty damage.

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. In the general soil map units, they are called soils of minor extent.

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

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

General Soil Map Units

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

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

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

1. Gladeville-Talbott-Rock Outcrop

Rock outcrop and very shallow and moderately deep, well drained soils that have a clayey subsoil; on undulating to hilly uplands

The topography of this map unit is dominantly undulating and rolling. Slopes are generally less than 12 percent but range from 2 to 20 percent. Limestone outcrops are prominent features. Solution caverns in the underlying limestone have resulted in numerous sinkholes and depressions. A large amount of surface water drains into the sinkholes and depressions.

This map unit makes up about 6 percent of the

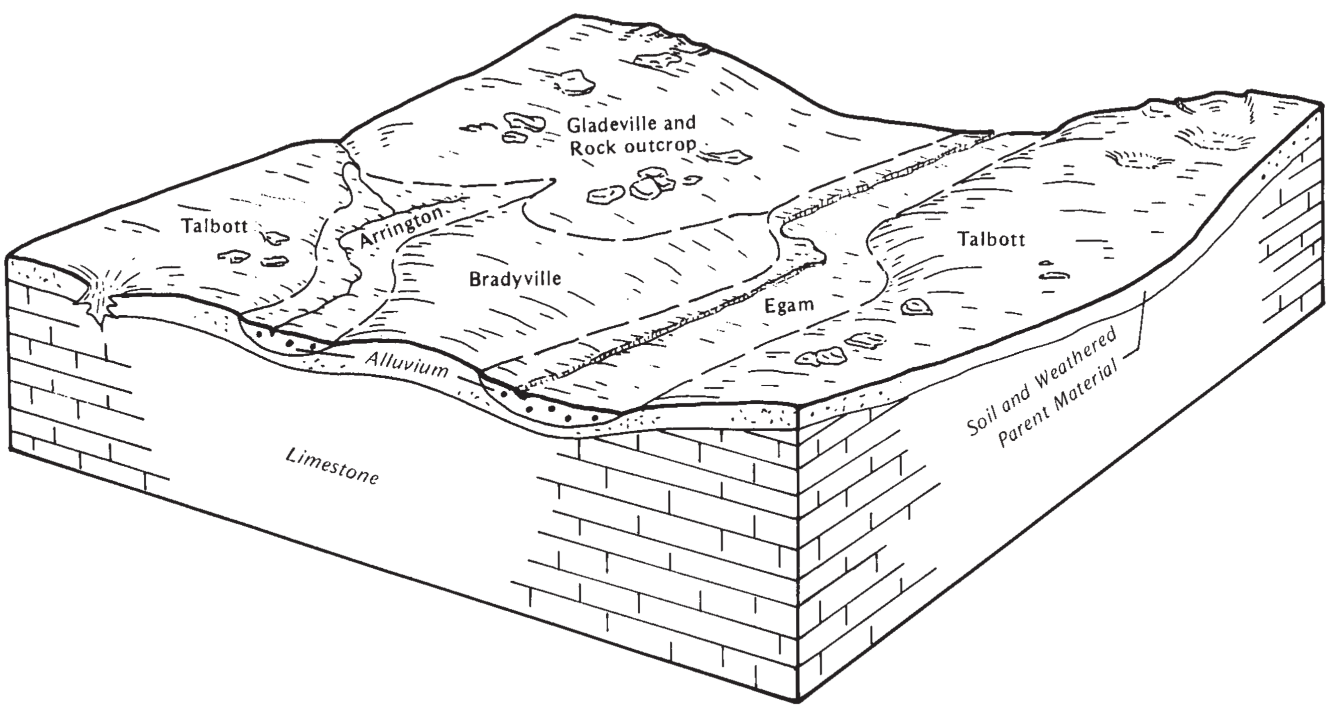

Figure 2.—Typical pattern of soils and underlying material in the Talbott-Gladeville-Bradyville general soil map unit.

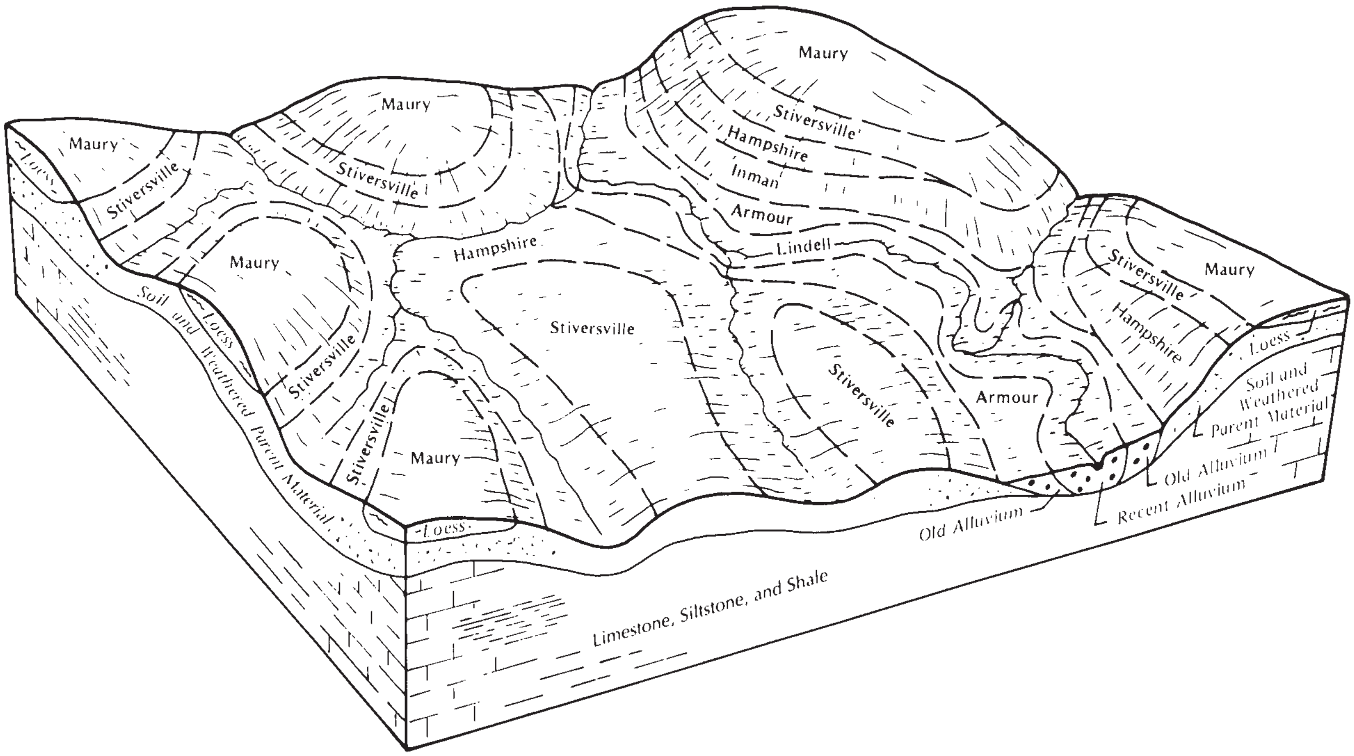

Figure 3.—Typical pattern of soils and underlying material in the Hampshire-Maury-Stiversville general soil map unit.

county. It is about 40 percent Gladeville soils, 36 percent Talbott soils, 12 percent Rock outcrop, and 12 percent soils of minor extent. The minor soils include Arrington, Barfield, Bradyville, and Capshaw soils on uplands and Egam and Eagleville soils in drainageways and depressions.

Gladeville soils are very shallow. The depth to limestone bedrock ranges from 3 to 12 inches. These soils are clayey throughout and have thin, flat fragments of limestone on and below the surface. Permeability is moderate.

Talbott soils are moderately deep over limestone bedrock. They dominantly have a loamy surface layer and a clayey subsoil. In some severely eroded areas, however, they have a clayey surface layer. Permeability is moderately slow.

The Rock outcrop consists of exposed limestone bedrock. In some places it is flat and nearly level with the surface of the soil. In other places it consists of narrow ledges that protrude 1 to 3 feet above the surface.

Most of the acreage in this unit is wooded, mainly with redcedar, hickory, and hackberry. The rest is used for pasture. The unit is not suited to cultivated crops and is poorly suited to most urban uses. The depth to bedrock and the large number of rock outcrops are the major limitations. The unit has low potential for woodland and pasture, but it is best suited to these uses.

2. Talbott-Gladeville-Bradyville

Very shallow to deep, well drained soils that have a clayey subsoil; on undulating to hilly uplands

The topography of this map unit is undulating to hilly (fig. 2). Slopes generally range from 2 to 15 percent but are as steep as 20 percent. Sinkholes and depressions are common because of solution caverns in the underlying limestone. This unit does not have a well developed network of drainageways because a large amount of surface water drains into the sinkholes.

This map unit makes up about 60 percent of the county. It is about 44 percent Talbott soils, 16 percent Gladeville soils, 9 percent Bradyville soils, and 31 percent soils of minor extent and rock outcrop. The minor soils include Arrington, Egam, and Lindell soils on narrow flood plains and in drainageways; Agee and Capshaw soils on broad flats and stream terraces; and Barfield and Lomond soils on uplands. The rock outcrop is on uplands.

Talbott soils are moderately deep over limestone bedrock. They dominantly have a loamy surface layer and a clayey subsoil. In some severely eroded spots, however, they have a clayey surface layer. Permeability is moderately slow.

Gladeville soils are very shallow. The depth to limestone bedrock ranges from 3 to 12 inches. These soils are clayey throughout and have thin, flat fragments of limestone on and below the surface. Permeability is moderate. Rock outcrops are numerous in areas of this soil.

Bradyville soils are deep over limestone bedrock. They have a loamy surface layer and a clayey subsoil. Permeability is moderately slow.

This map unit is used dominantly for pasture. Some areas, however, are used for woodland, cropland, or urban development. The production of beef cattle is the major farm enterprise. The unit is moderately suited to hay, pasture, and trees. It generally is poorly suited to cultivated crops. Some areas, however, are better suited. The unit is poorly suited to many urban uses. The depth to bedrock, the moderately slow permeability, low strength, and the rock outcrop are difficult to overcome.

3. Hampshire-Maury-Stiversville

Deep, well drained soils that have a clayey or loamy subsoil; on undulating to steep uplands

The landscape of this map unit is characterized by undulating and rolling ridgetops and moderately steep and steep hillsides (fig. 3). Slopes range from 2 to 30 percent. This unit is dissected by drainageways leading to small streams that have narrow flood plains.

This map unit makes up about 6 percent of the county. It is about 45 percent Hampshire soils, 22 percent Maury soils, 10 percent Stiversville soils, and 23 percent soils of minor extent. The minor soils include Inman and Hicks soils on uplands, Armour and Byler soils on foot slopes and terraces, and Lindell soils on narrow flood plains.

Hampshire soils are deep over rippable bedrock. They have a loamy surface layer and a clayey subsoil. Permeability is moderately slow.

Maury soils are deep over limestone bedrock. They have a loamy surface layer and a clayey subsoil. Permeability is moderate.

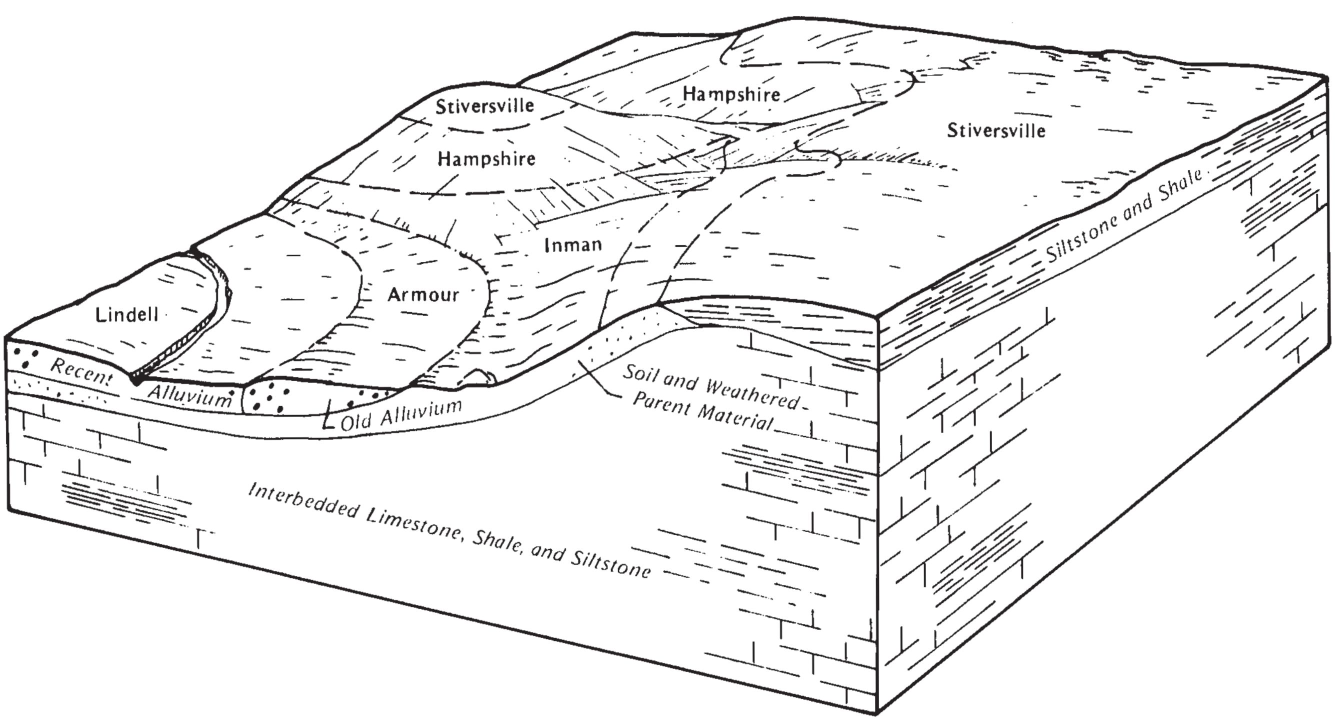

Figure 4.—Typical pattern of soils and underlying material in the Stiversville-Hampshire-Inman general soil map unit.

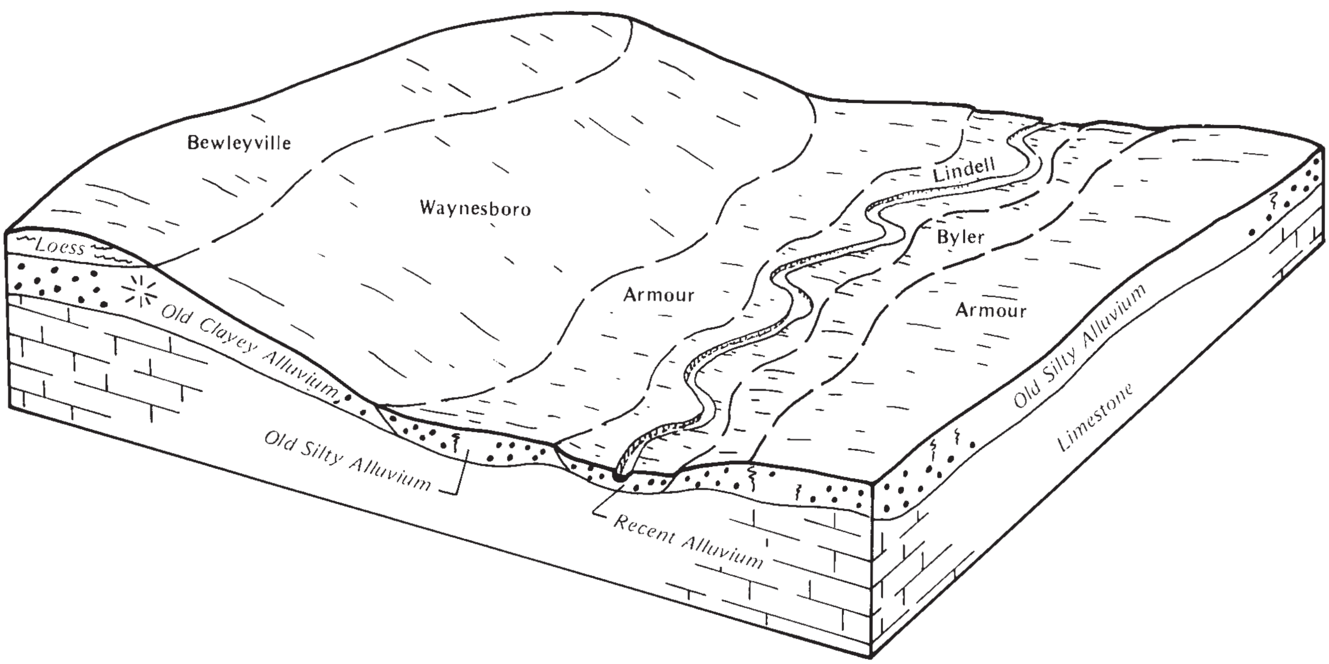

Figure 5.—Typical pattern of soils and underlying material in the Waynesboro-Armour-Bewleyville general soil map unit.

Stiversville soils are deep over rippable bedrock. They have a loamy surface layer and subsoil. Permeability is moderately rapid.

This map unit is used mostly for urban development or pasture. It is well suited to pasture and woodland. The soils on ridgetops are well suited to cultivated crops and urban development, but the soils on steep hillsides are poorly suited to these uses.

4. Stiversville-Hampshire-Inman

Moderately deep and deep, well drained soils that have a loamy or clayey subsoil; on undulating to steep uplands

The landscape of this map unit is characterized by undulating and rolling ridgetops and moderately steep and steep hillsides (fig. 4). Slopes range from 2 to 30 percent. This unit is dissected by drainageways leading to small streams that have narrow flood plains.

This map unit makes up about 5 percent of the county. It is about 44 percent Stiversville soils, 29 percent Hampshire soils, 14 percent Inman soils, and 13 percent soils of minor extent. The minor soils include soils on uplands; Armour, Byler, and Capshaw soils on foot slopes and terraces; and Lindell soils on narrow flood plains.

Stiversville soils are deep over rippable bedrock. They have a loamy surface layer and subsoil. Permeability is moderately rapid.

Hampshire soils are deep over rippable bedrock. They have a loamy surface layer and a clayey subsoil. Permeability is moderately slow.

Inman soils are moderately deep over rippable bedrock. They have a moderately clayey surface layer and a clayey subsoil. Permeability is moderately slow. Thin, flat fragments of limestone are on and below the surface.

The unit is used mostly for hay or pasture. In some areas it is used for cultivated crops or woodland. It is well suited to pasture. Generally, it is moderately suited to cultivated crops. The soils on steep hillsides, however, are poorly suited to crops because of a severe hazard of erosion and an equipment limitation. Generally, the unit is moderately suited to urban development. The steep soils, however, have severe limitations affecting most urban uses.

5. Waynesboro-Armour-Bewleyville

Deep, well drained soils that have a loamy or clayey subsoil; in undulating to hilly areas on high stream terraces and uplands

This map unit is on broad, undulating and rolling ridgetops and terraces and moderately steep hillsides (fig. 5). Slopes range from 2 to 20 percent. This unit is dissected by drainageways and small streams that have narrow flood plains. In places low terraces are adjacent to the flood plains.

This map unit makes up about 4 percent of the county. It is about 30 percent Waynesboro soils, 25 percent Armour soils, 10 percent Bewleyville soils, and 35 percent soils of minor extent. The minor soils include Talbott soils on uplands, Byler and Woodmont soils on stream terraces, and Lindell and Norene soils at the head of drainageways and on flood plains.

The major soils are moderately permeable. Waynesboro soils have a loamy surface layer and a clayey subsoil. Armour soils have a loamy surface layer and subsoil. Bewleyville soils are loamy in the surface layer and in the upper part of the subsoil and are clayey in the lower part of the subsoil.

This map unit is used mostly for cultivated crops, hay, or pasture. Numerous dwellings and some recreational developments are in the vicinity of Old Hickory Lake. The major soils are well suited to crops and pasture. The hazard of erosion is severe if cultivated crops are grown in the steeper areas. The unit generally is well suited or moderately suited to most urban uses. The minor soils on flood plains, however, are unsuited to building site development and some other urban uses.

6. Mimosa-Rock Outcrop-Dellrose-Hawthorne

Rock outcrop and deep and moderately deep, well drained soils that have a clayey or loamy subsoil; on undulating to very steep uplands

The landscape of this map unit is characterized by narrow, rolling ridgetops and side slopes that range from hilly to very steep (fig. 6). This unit has the steepest soils in the county. Slopes range from 3 to 60 percent. Rock outcrops are prominent features. This unit is highly dissected by drainageways.

This map unit makes up about 4 percent of the county. It is about 50 percent Mimosa soils, 20 percent Rock outcrop, 15 percent Dellrose soils, 11 percent Hawthorne soils, and 4 percent soils of minor extent. The minor soils include Barfield and Inman soils on uplands and Arrington and Egam soils on narrow flood plains.

Mimosa soils are deep over hard limestone bedrock. They have a moderately clayey surface layer and a clayey subsoil. Permeability is moderately slow.

The Rock outcrop consists of exposed limestone bedrock. In most areas it occurs as narrow ledges that

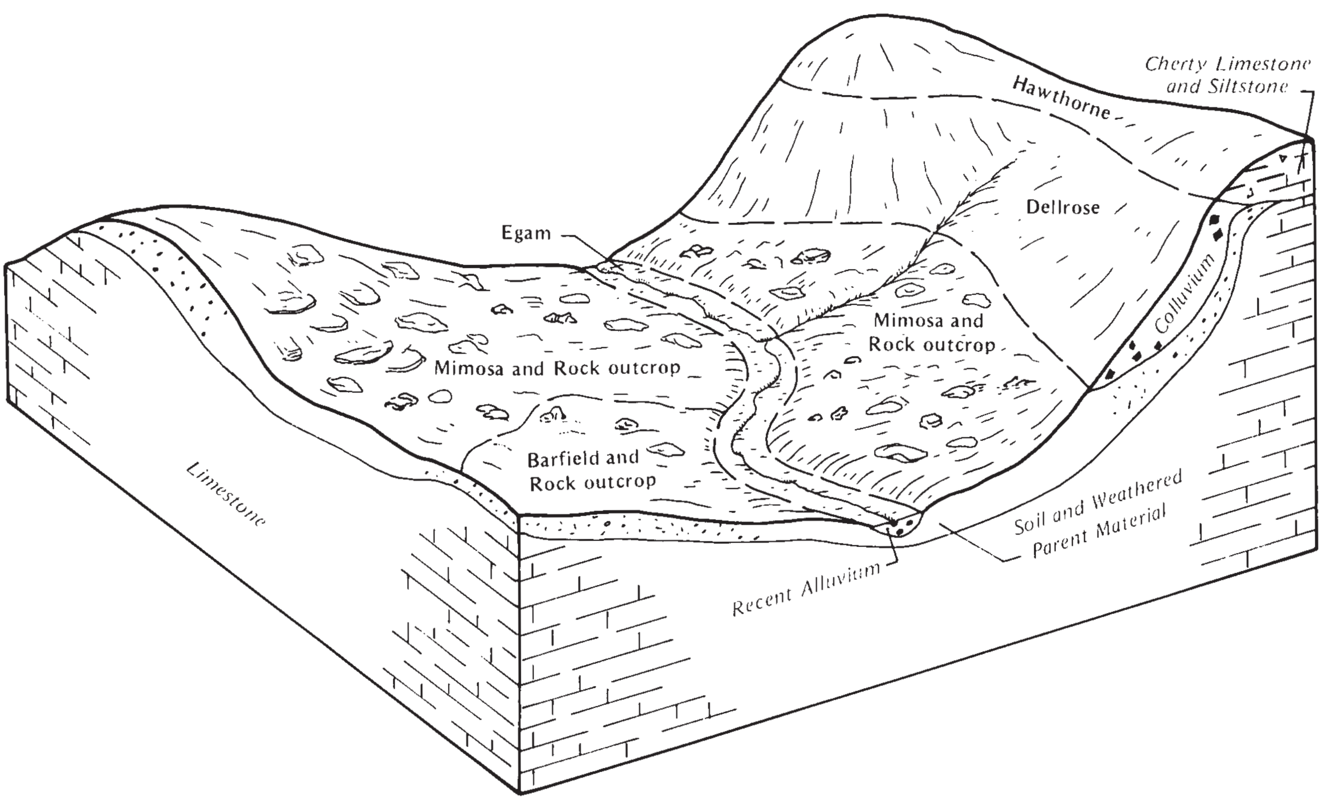

Figure 6.—Typical pattern of soils and underlying material in the Mimosa-Rock outcrop-Dellrose-Hawthorne general soil map unit.

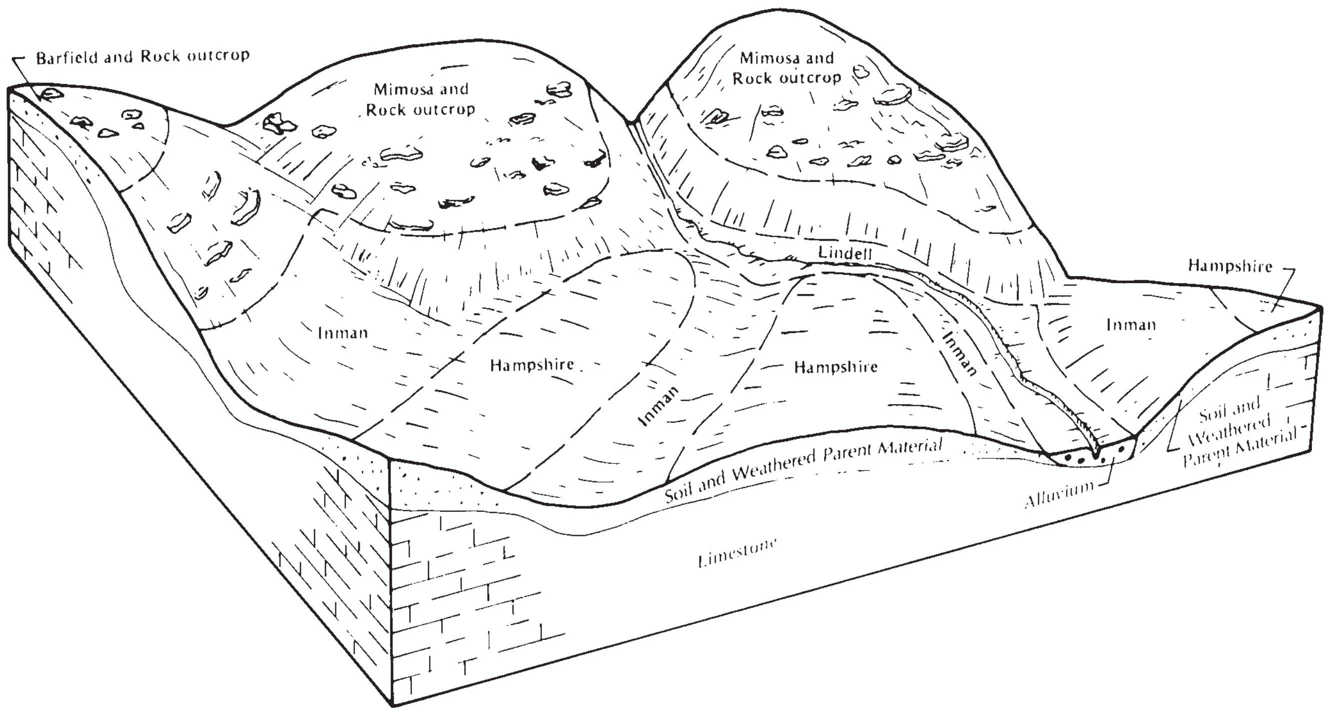

Figure 7.—Typical pattern of soils and underlying material in the Inman-Mimosa-Hampshire-Rock outcrop general soil map unit.

are generally parallel to the slope. It protrudes about 1 to 3 feet above the surface of the soil.

Dellrose soils are deep. They have a loamy surface layer and subsoil. They have fragments of chert throughout. Permeability is moderately rapid.

Hawthorne soils are moderately deep over rippable bedrock. They have a loamy surface layer and subsoil. They have about 35 to 50 percent fragments of hard chert and soft siltstone. Permeability is moderately rapid.

Most of the acreage in this unit is wooded. The rest is used for pasture. The unit generally is not suited to cultivated crops. It is moderately suited or poorly suited to pasture, moderately suited to woodland, and poorly suited to most urban uses. The slope, the moderately slow permeability in the Mimosa soil, and the depth to bedrock are the major limitations.

7. Inman-Mimosa-Hampshire-Rock Outcrop

Rock outcrop and deep and moderately deep, well drained soils that have a clayey subsoil; on undulating to steep uplands

The landscape of this map unit is characterized by narrow, undulating and rolling ridgetops and moderately steep and steep hillsides (fig. 7). Slopes range from 2 to 35 percent. Rock outcrops are prominent features. This unit is highly dissected by drainageways.

This map unit makes up about 15 percent of the county. It is about 30 percent Inman soils, 20 percent Mimosa soils, 12 percent Hampshire soils, 10 percent Rock outcrop, and 28 percent soils of minor extent. The minor soils are Barfield and Talbott soils on uplands; Armour, Capshaw, and Tupelo soils on foot slopes and terraces; and Egam and Lindell soils on narrow flood plains.

Inman soils are moderately deep over interbedded, rippable limestone and shale bedrock. They have a moderately clayey surface layer and a clayey subsoil. They have flagstones on and below the surface. Permeability is moderately slow.

Mimosa soils are deep over hard limestone bedrock. They have a moderately clayey surface layer and a clayey subsoil. Permeability is moderately slow. Areas of the Rock outcrop are closely associated with the Mimosa soils.

Hampshire soils are deep over rippable bedrock. They have a loamy surface layer and a clayey subsoil. Permeability is moderately slow.

The Rock outcrop consists of exposed limestone bedrock. In most areas it occurs as narrow ledges that are generally parallel to the slope. It protrudes about 1 to 3 feet above the surface of the soil.

This map unit is used mostly for pasture or woodland. A small acreage is used for cultivated crops. The unit is moderately suited to pasture and woodland. Most areas of the unit are poorly suited to cultivated crops and to urban uses. The slope, the moderately slow permeability, the depth to bedrock, and the Rock outcrop are the main limitations affecting most uses.

Detailed Soil Map Units

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the substratum, 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 substratum. 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, Armour silt loam, 2 to 5 percent slopes, is a phase of the Armour series.

Some map units are made up of two or more major soils. These map units are called soil complexes. A *soil complex* consists of two or more soils or one or more soils and a miscellaneous area 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. Mimosa-Rock outcrop complex, 15 to 35 percent slopes, is an example.

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

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

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Ag—Agee silty clay loam, rarely flooded. This deep, poorly drained, nearly level soil formed in clayey alluvium. It is on broad flats and along drainageways in limestone valleys. Slopes range from 0 to 2 percent. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is very dark grayish brown silty clay loam about 9 inches thick. Below this, from a depth of 9 to 21 inches, is very dark gray and black silty clay. The subsoil, from a depth of 21 to 53 inches, is grayish brown clay that has mottles in shades of gray and brown. The substratum is gray clay that has mottles in shades of brown and gray.

Included with this soil in mapping are small areas of the moderately well drained Egam soils on adjacent flood plains. Also included are small areas of Capshaw soils on adjacent stream terraces. The Capshaw soils have a brown surface layer and a yellowish brown subsoil. Included areas make up about 10 percent of the unit.

The Agee soil is high in natural fertility and moderate in organic matter content. It ranges from medium acid to mildly alkaline. Permeability is very slow, and available water capacity is moderate or high. The shrink-swell potential is high. Where undrained, this soil has water near the surface during most of the winter and early spring. The root zone is limited by the seasonal high water table. This soil is subject to rare flooding for brief periods.

This soil is used mostly for cultivated crops or pasture. In some areas it is used as woodland. It is moderately suited to short-season crops, such as soybeans. It is well suited to water-tolerant pasture plants, such as tall fescue and ladino clover.

This soil is moderately suited to woodland. Management concerns include seedling mortality, windthrow, and an equipment limitation because of the wetness. Suitable species include eastern cottonwood and sweetgum. Plant competition is severe where seedlings are newly planted.

This soil is poorly suited to most urban uses because of the wetness, the high shrink-swell potential, and the flooding.

The capability subclass is IIIw.

AnC—Arents, 2 to 15 percent slopes. This unit consists of borrow areas and areas of cuts and fills associated with commercial developments. Slopes are dominantly 2 to 15 percent but are almost vertical along the outer edge of a few areas. Individual areas range from about 4 to 100 acres in size.

The texture of the soil material varies considerably but is nearly all clayey. The content of rock fragments ranges from a few to more than 50 percent throughout the soil material. Bedrock is exposed in some areas.

Included in mapping are small areas of undisturbed soils. They make up less than 10 percent of the unit.

The soil material in this unit is low in natural fertility and organic matter content. Reaction varies but generally ranges from slightly acid to strongly acid. Typically, permeability is slow because most areas have been disturbed and compacted. The root zone ranges from very shallow to deep and generally is difficult for roots to penetrate.

The amount of vegetation varies. Some areas have been seeded or sodded to grass. Some newly formed areas are completely bare of vegetation.

This unit is poorly suited to crops, pasture, and woodland. Most areas are associated with some type of commercial development or construction site.

Determining suitability for urban uses requires onsite investigation.

This unit has not been assigned a capability classification.

ArB—Armour silt loam, 2 to 5 percent slopes. This deep, well drained, gently sloping soil is on terraces, foot slopes, and fans in the outer part of the Central Basin. Slopes are smooth and mostly convex. Individual areas range from about 4 to 125 acres in size.

Typically, the surface layer is dark brown silt loam about 9 inches thick. The subsoil to a depth of 62 inches is yellowish brown and strong brown silt loam and silty clay loam.

Included with this soil in mapping are small areas of Maury soils, which have a clayey subsoil that is redder than that of the Armour soil, and Waynesboro soils, which have a clayey subsoil that contains more sand. Included areas make up about 15 percent of the unit.

The Armour soil is medium in natural fertility and moderate or low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. Low strength is a severe limitation on sites for roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIe.

ArC2—Armour silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on stream terraces, foot slopes, and alluvial fans in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 200 acres in size.

Typically, the surface layer is dark brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil to a depth of 62 inches is yellowish brown and strong brown silt loam and silty clay loam.

Included with this soil in mapping are small areas of Maury soils, which have a clayey subsoil that is redder than that of the Armour soil, and Waynesboro soils, which have a clayey subsoil that contains more sand. Included areas make up about 12 percent of the unit.

The Armour soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concerns are a moderate hazard of erosion after site preparation and plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is moderately suited to most urban uses. Low strength is a severe limitation on sites for roads and streets, and slope is a moderate limitation affecting most uses. These limitations can be overcome on most sites by good design and careful installation.

The capability subclass is IIIe.

ArD2—Armour silt loam, 12 to 20 percent slopes, eroded. This deep, well drained, moderately steep soil is on stream terraces and foot slopes in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is dark brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil to a depth of 62 inches is yellowish brown and strong brown silt loam and silty clay loam.

Included with this soil in mapping are small areas of Waynesboro soils, which have a clayey subsoil that has more sand than that of the Armour soil, and Stiversville soils, which are 40 to 60 inches deep over bedrock. Also included are areas of a soil that is similar to the Armour soil but has up to 15 percent gravel in the surface layer and subsoil. Included areas make up about 15 percent of the unit.

The Armour soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for hay or pasture. This soil is poorly suited to cultivated crops and moderately suited to pasture and hay. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The hazard of erosion is moderate after site preparation. Plant competition is a management concern where seedlings are newly planted. The slope results in a moderate equipment limitation. Suitable species include yellow-poplar and loblolly pine.

This soil is poorly suited to most urban uses because of the slope. Special design and good installation are required.

The capability subclass is IVe.

At—Arrington silt loam, occasionally flooded. This deep, well drained, nearly level, loamy soil formed in alluvium. It is on flood plains along rivers, creeks, and narrow drainageways throughout the county. Slopes range from 0 to 2 percent. Individual areas range from 4 to 80 acres in size.

Typically, the surface layer is dark brown silt loam about 32 inches thick. The subsoil, from a depth of 32 to 50 inches, is dark brown silt loam. The underlying material, from a depth of 50 to 62 inches, is brown silt loam that has grayish brown mottles.

Included with this soil in mapping are small areas of Egam soils, which have a clayey subsoil, and small areas of a soil that is similar to the Arrington soil but is less than 60 inches deep over bedrock. Also included are small areas of a moderately well drained soil along the edge of mapped areas and in slight depressions. Included areas make up about 5 to 10 percent of the unit.

The Arrington soil is high in natural fertility and moderate in organic matter content. It is slightly acid or neutral. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots. This soil is occasionally flooded for very brief periods.

This soil is used mostly for cultivated crops. In some areas it is used for pasture or woodland. It is well suited to cultivated crops, hay, and pasture and is one of the most productive soils in the county. The flooding occasionally causes minor crop damage but seldom causes severe damage. Erosion is not a management concern on this soil.

This soil is well suited to black walnut, yellow-poplar, and loblolly pine. The only significant management concern is plant competition where seedlings are newly planted.

This soil is not suited to most urban uses because of the flooding.

The capability subclass is IIw.

BaD—Barfield-Rock outcrop complex, 8 to 20 percent slopes. This map unit occurs as areas of a sloping and moderately steep Barfield soil and areas of limestone outcrop. The Barfield soil makes up about 60 to 80 percent of each mapped area, and the Rock outcrop makes up 10 to 35 percent. The Barfield soil and Rock outcrop occur as areas so intermingled that they could not be separated at the scale selected for mapping. The unit is in the inner and outer parts of the Central Basin. Individual areas range from about 4 to 125 acres in size.

Typically, the surface layer of the Barfield soil is very dark grayish brown silty clay loam about 5 inches thick. The subsoil extends to a depth of 16 inches. It is very dark grayish brown in the upper part and mottled olive brown, dark grayish brown, and light olive brown in the lower part. It is silty clay and clay. Below this is limestone bedrock.

Included in mapping are small areas of Gladeville soils, which are less than 12 inches deep over bedrock. Also included are a few areas of Talbott soils, which are 20 to 40 inches deep over bedrock. Included areas make up about 10 to 15 percent of the unit.

The Barfield soil is medium in natural fertility and moderate in organic matter content. It ranges from slightly acid to mildly alkaline. Permeability is moderately slow, and available water capacity is low or very low.

The Rock outcrop consists of ledges and nearly level areas of exposed limestone bedrock. The ledges are narrow bands parallel to the slope and protrude 1 to 4 feet above the surface.

Nearly all of the acreage in this unit is used as woodland or native pasture. The areas used for pasture are adjacent to the more productive soils and are managed along with these soils. The areas of woodland have stands of hickory, oak, elm, and eastern redcedar. Many areas of woodland are grazed along with adjoining pastures.

This unit is not suited to crops. The shallow depth of the Barfield soil and the Rock outcrop are the major limitations. This unit has low potential for pasture; however, pasture is one of its most feasible uses. The Rock outcrop makes pasture maintenance difficult. The shallow depth of the Barfield soil limits the supply of moisture available for the growth of high-quality forage.

This unit has low potential for woodland; however, woodland is one of its most feasible uses. The depth to bedrock in the Barfield soil limits the supply of moisture available for the growth of high-quality trees. Eastern redcedar is the best suited species.

This unit is poorly suited to urban uses. Overcoming the depth to bedrock and the Rock outcrop is difficult.

The capability subclass is VIIs.

BeB2—Bewleyville silt loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is on high stream terraces and uplands. Slopes are smooth and convex. Individual areas range from about 4 to 125 acres in size.

Typically, the surface layer is brown silt loam about 10 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil, from a depth of 10 to 30 inches, is strong brown silty clay loam. From a depth of 30 to 60 inches, it is yellowish red and red silty clay loam and clay loam.

Included with this soil in mapping are small areas of Waynesboro soils, which have a clayey subsoil that is redder and has more sand than that of the Bewleyville soil. Included areas make up about 15 percent of the unit.

The Bewleyville soil is medium in natural fertility and low in organic matter content. It is medium acid to very strongly acid in the upper part and strongly acid or very strongly acid in the lower part. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all of the acreage in this unit has been cleared of trees and is used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. Low strength is a severe limitation on sites for roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIe.

BeC2—Bewleyville silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on side slopes of high stream terraces and uplands. Slopes are smooth and convex. Individual areas range from about 4 to 200 acres in size.

Typically, the surface layer is brown silt loam about 9 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil, from a depth of 10 to 30 inches, is strong brown silty clay loam. From a depth of 30 to 60 inches, it is yellowish red and red silty clay loam and clay loam.

Included with this soil in mapping are small areas of Waynesboro soils, which are more clayey than the Bewleyville soil and have more sand in the subsoil. Included areas make about 20 percent of the unit.

The Bewleyville soil is medium in natural fertility and low in organic matter content. It is medium acid to very strongly acid in the upper part and strongly acid or very strongly acid in the lower part. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concerns are a moderate hazard of erosion after site preparation and plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is moderately suited to most urban uses. Low strength is a severe limitation on sites for roads and streets, and slope is a moderate limitation affecting most uses. Overcoming these limitations requires good design and careful installation.

The capability subclass is IIIe.

BrB2—Bradyville silt loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is in broad, undulating areas in the inner part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is reddish brown silt loam about 5 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is red silty clay loam. The lower part is red clay. Hard limestone bedrock is at a depth of about 52 inches.

Included with this soil in mapping are small areas of Talbott soils, which are 20 to 40 inches deep over bedrock, and a soil that is similar to the Bradyville soil but is more than 60 inches deep over bedrock. Also included are a few areas of rock outcrop. These areas of rock outcrop are less than one-half acre in size. Included areas make up about 25 percent of the unit.

The Bradyville soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas and the layer directly above the bedrock is strongly acid to mildly alkaline. Permeability is moderately slow, and available water capacity is moderate or high. The shrink-swell potential is moderate. The root zone is only moderately deep because of the plastic, clayey part of the subsoil.

Most of the acreage is used for pasture or hay. This soil is well suited to pasture, hay, and cultivated crops (fig. 8). Yields of cultivated crops are moderately high. The most limiting factors are root penetration and the available water capacity because of the high content of clay in the subsoil.

This soil is well suited to woodland. The only significant management concerns are plant competition where seedlings are newly planted and control of undesirable species. Suitable species include yellow-poplar, eastern redcedar, and loblolly pine.

This soil is moderately suited to some urban uses and poorly suited to others. Low strength is a severe limitation on sites for roads and streets. The moderately slow permeability is a severe limitation on sites for septic tank absorption fields.

The capability subclass is IIe.

BrC2—Bradyville silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is in broad, rolling areas in the inner part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is reddish brown silt loam about 5 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is red silty clay loam. The lower part is red clay. Hard limestone bedrock is at a depth of about 52 inches.

Included with this soil in mapping are small areas of Talbott soils, which are 20 to 40 inches deep over bedrock, and a soil that is similar to the Bradyville soil but is more than 60 inches deep over bedrock. Also included are a few areas of rock outcrop. These areas of rock outcrop are less than one-half acre in size. Included areas make up about 25 percent of the unit.

The Bradyville soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer and the layer directly above the bedrock are less acid in recently limed areas. Permeability is moderately slow, and available water capacity is moderate or high. The shrink-swell potential is moderate. The root zone is only moderately deep because of the plastic, clayey part of the subsoil.

Most of the acreage is used for pasture or hay. Some areas are used for cultivated crops. This soil is well suited to pasture and hay and moderately suited to cultivated crops. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concerns are plant competition where seedlings are newly planted and control of undesirable species. Suitable species include yellow-poplar, eastern redcedar, and loblolly pine.

This soil is moderately suited to some urban uses and poorly suited to others. Low strength is a severe limitations on sites for roads and streets. The

Figure 8.—An area of Bradyville silt loam, 2 to 5 percent slopes, eroded.

moderately slow permeability is a severe limitation on sites for septic tank absorption fields.

The capability subclass is IIIe.

BvB2—Bradyville silt loam, 2 to 5 percent slopes, eroded, rocky. This deep, well drained, gently sloping soil is in broad, undulating areas in the inner part of the Central Basin. Slopes are smooth and convex. Limestone outcrops are in scattered areas throughout the unit. They cover 5 to 10 percent of the surface. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is reddish brown silt loam about 5 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is red silty clay loam. The lower part is red clay. Hard limestone bedrock is at a depth of about 45 inches.

Included with this soil in mapping are small areas of Talbott soils, which are 20 to 40 inches deep over bedrock. Also included are small areas of Gladeville soils and small areas where rock outcrop covers more than 10 percent of the surface. Included areas make up about 10 to 15 percent of the unit.

The Bradyville soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas and the layer directly above the bedrock ranges from strongly acid to mildly alkaline.

Permeability is moderately slow, and available water capacity is moderate or high. The shrink-swell potential is moderate. The root zone is only moderately deep because of the plastic, clayey part of the subsoil.

This soil is used mostly for pasture. In some areas it is cultivated. It is moderately suited to pasture and poorly suited to cultivated crops. Although the rock outcrops interfere with clipping and other management practices, managing most areas for pasture is feasible. In some areas cultivation is not feasible because of the rock outcrops.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. The rock outcrops result in a moderate equipment limitation. Suitable species include loblolly pine and eastern redcedar.

This soil is poorly suited to many urban uses because of the rock outcrops, the moderately slow permeability, and low strength. These limitations can be minimized or overcome for some uses, such as building sites and roads, by careful planning and design. Overcoming the limitations is very difficult, however, on sites for septic tank absorption fields.

The capability subclass is IVs.

ByB—Byler silt loam, 2 to 5 percent slopes. This deep, moderately well drained, gently sloping soil is on stream terraces and foot slopes. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is brown silt loam about 9 inches thick. The upper part of the subsoil is yellowish brown silt loam and silty clay loam. The next part is a dense fragipan of yellowish brown silty clay loam that has mottles in shades of gray and brown. The lower part is yellowish brown clay that has mottles in shades of gray and brown.

Included with this soil in mapping are small areas of Armour soils, which are well drained, and small areas of Woodmont soils, which are somewhat poorly drained. Included areas make up about 15 percent of the unit.

The Byler soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in limed areas. Permeability is slow, and available water capacity is moderate or high. This soil has a moderately deep root zone and is easily tilled.

This soil is used mostly for cultivated crops, hay, or pasture. It is well suited to most of the cultivated crops and hay and pasture plants commonly grown in the county. It is only moderately suited to tobacco and alfalfa because of the wetness. The hazard of erosion is moderate if cultivated crops are grown. The fragipan restricts root growth and moisture supply.

This soil is well suited to woodland. The only significant management concerns are plant competition where seedlings are newly planted and windthrow in older stands. Suitable species include yellow-poplar, southern red oak, loblolly pine, and shortleaf pine.

This soil is moderately suited to most urban uses. The wetness and the slow permeability are severe limitations on sites for septic tank absorption fields. Seasonal wetness and low strength are moderate limitations on sites for local roads and streets.

The capability subclass is IIe.

ByC2—Byler silt loam, 5 to 12 percent slopes, eroded. This deep, moderately well drained, sloping soil is on stream terraces and foot slopes. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is brown silt loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is yellowish brown silt loam and silty clay loam. The next part is a dense fragipan of yellowish brown silty clay loam that has mottles in shades of gray and brown. The lower part is yellowish brown clay that also has mottles in shades of gray and brown.

Included with this soil in mapping are small areas of Armour soils, which are well drained, and small areas of the somewhat poorly drained Woodmont soils along drainageways. Included areas make up about 20 percent of the unit.

The Byler soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in limed areas. Permeability is slow, and available water capacity is moderate or high. This soil has a moderately deep root zone and is easily tilled.

This soil is used mostly for cultivated crops, hay, or pasture. It is well suited to most of the cultivated crops and hay and pasture plants commonly grown in the county. It is only moderately suited to tobacco and alfalfa because of the wetness. The hazard of erosion is severe if cultivated crops are grown. The fragipan restricts root growth and moisture supply.

This soil is well suited to woodland. The only significant management concerns are plant competition where seedlings are newly planted and windthrow in older stands. Suitable species include yellow-poplar, southern red oak, loblolly pine, and shortleaf pine.

This soil is moderately suited to most urban uses. The wetness and the slow permeability are severe limitations on sites for septic tank absorption fields. Seasonal wetness and low strength are moderate limitations on sites for local roads and streets.

The capability subclass is IIIe.

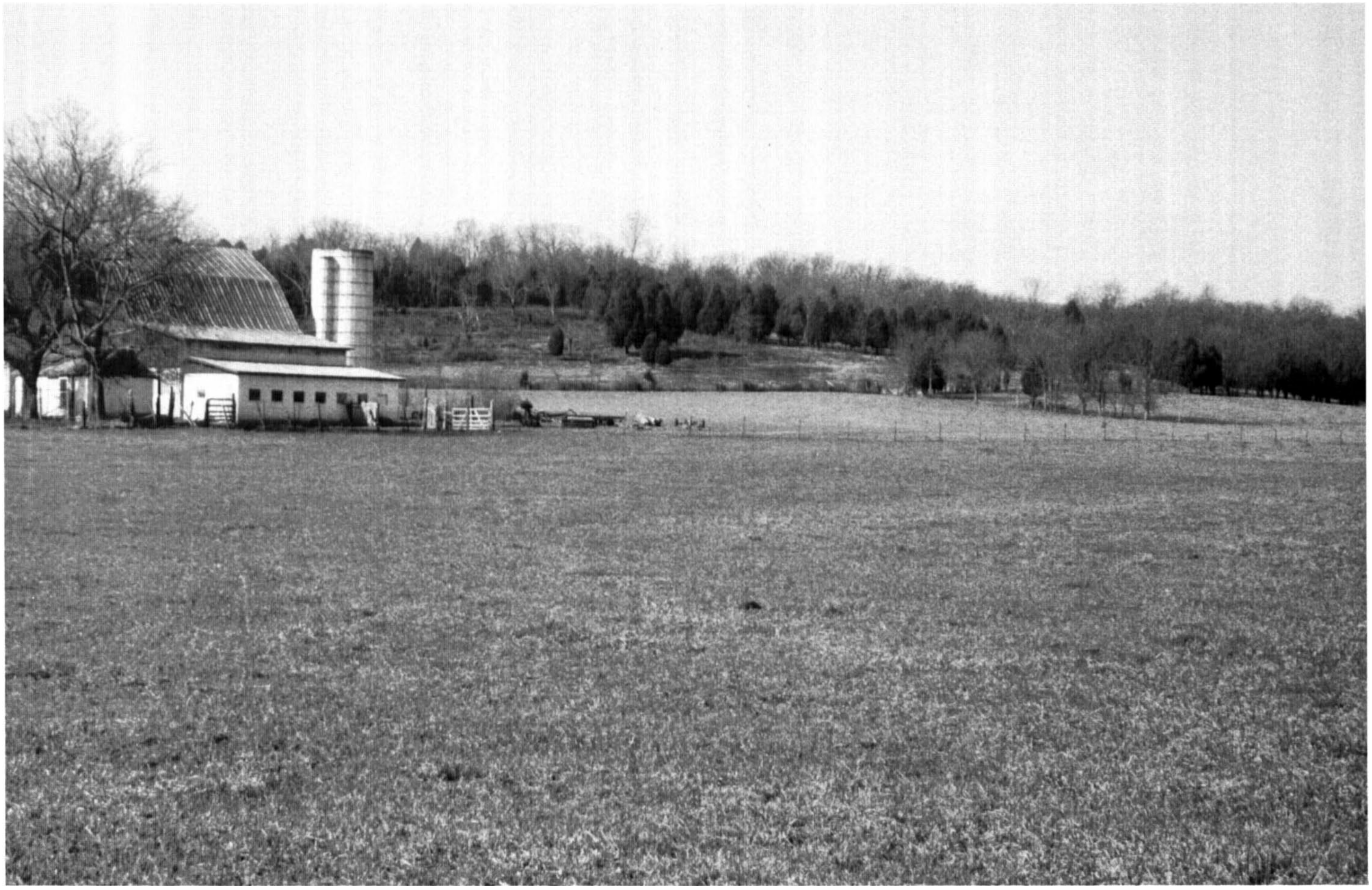

Figure 9.—An area of Capshaw silt loam, 2 to 6 percent slopes, used for pasture.

CaB—Capshaw silt loam, 2 to 6 percent slopes. This deep, moderately well drained soil is on stream terraces and broad upland flats. Individual areas range from 4 to more than 50 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. The subsoil is yellowish brown and has mottles in shades of brown and gray. In the upper few inches, it is silty clay loam. Below this it is silty clay or clay. The substratum is clay that has mottles in shades of gray, yellow, and brown. Limestone bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of the well drained Bradyville and Talbott soils; Byler soils, which have a fragipan; and Agee soils, which are dark and poorly drained. Also included are small areas that have a few rock outcrops. Included areas make up about 15 percent of the unit.

The Capshaw soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer and the horizon directly above the bedrock are less acid in limed areas. Permeability is slow, and available water capacity is moderate or high. The root zone is only moderately deep because of the plastic, clayey part of the subsoil.

This soil is used mostly for row crops or pasture (fig. 9). It is moderately suited to these uses. Crop yields are only moderate because the root zone is limited by the clayey subsoil. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, southern red oak, loblolly pine, and shortleaf pine.

This soil is poorly suited to some urban uses and moderately suited to others. The slow permeability and low strength are severe limitations on sites for septic tank absorption fields and local roads and streets. Overcoming the limitations on sites for septic tank absorption fields is difficult.

The capability subclass is IIe.

DeE—Dellrose cherty silt loam, 20 to 30 percent slopes. This deep, well drained, steep soil is on upland hillsides in the outer part of the Central Basin. It is directly below the escarpment of the Highland Rim, which is evident in places. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark brown cherty silt loam about 13 inches thick. The subsoil extends to a depth of 60 inches or more. It is brown cherty silt loam in the upper part and strong brown cherty silty clay loam in the lower part.

Included with this soil in mapping are small areas of Mimosa soils and a few areas of a soil that is less than 40 inches deep over bedrock. Also included are some areas that have rock outcrops on the lower part of the slope and a few areas where the slope is less than 20 percent. Included areas make up about 25 percent of the unit.

The Dellrose soil is medium in natural fertility and organic matter content. It ranges from medium acid to very strongly acid. Permeability is moderately rapid, and available water capacity is moderate or high. The root zone is deep and can be easily penetrated by roots.

This soil is used mostly for pasture or woodland (fig. 10). It is not suited to cultivated crops because of the slope. It is productive if used for grasses and legumes. Pasture maintenance and renovation are difficult because of the slope.

This soil is well suited to woodland. The hazard of erosion, the equipment limitation, and plant competition where seedlings are newly planted are moderate. Suitable species include yellow-poplar, black walnut, black locust, and loblolly pine.

This soil is poorly suited to most urban uses because of the slope. If cut, it is highly susceptible to landslides.

The capability subclass is VIe.

DeF—Dellrose cherty silt loam, 30 to 50 percent slopes. This deep, well drained, steep soil is on upland hillsides in the outer part of the Central Basin. It is directly below the escarpment of the Highland Rim,

Figure 10.—An area of pasture on Dellrose cherty silt loam, 20 to 30 percent slopes.

which is evident in places. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is dark brown cherty silt loam about 13 inches thick. The subsoil extends to a depth of 60 inches or more. It is brown cherty silt loam in the upper part and strong brown cherty silty clay loam in the lower part.

Included with this soil in mapping are small areas of Mimosa soils and some areas that have rock outcrops on the lower part of the slope. Included areas make up about 20 percent of the unit.

The Dellrose soil is medium in natural fertility and organic matter content. It ranges from medium acid to very strongly acid. Permeability is moderately rapid, and available water capacity is moderate or high. The root zone is deep and can be easily penetrated by roots.

This soil is used for pasture or woodland. It is poorly suited to pasture because ordinary farm equipment is not practical for maintenance and renovation.

This soil is moderately suited to woodland. The hazard of erosion is severe and results in an equipment limitation when trees are harvested and sites are prepared for planting. Suitable species include yellow-poplar, black walnut, black locust, and loblolly pine.

This soil is poorly suited to urban uses because of the slope. If cut, it is highly susceptible to landslides.

The capability subclass is VIIe.

DoB—Dowellton silt loam, 1 to 6 percent slopes. This deep, poorly drained, nearly level and gently sloping soil is on broad upland flats in the outer part of the Central Basin and on low stream terraces in the inner part. Slopes are smooth and slightly convex. Individual areas range from 4 to 50 acres in size.

Typically, the surface layer is about 10 inches of dark grayish brown silt loam and silty clay loam. The subsoil is gray and light gray clay that has mottles in shades of brown, red, and yellow. It is very firm when moist and very sticky and plastic when wet. Limestone bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of better drained soils and small areas that have bedrock at a depth of less than 40 inches. Included areas make up about 10 percent of the unit.

The Dowellton soil is low in natural fertility and organic matter content. It is medium acid to neutral in the upper part and medium acid to mildly alkaline in the lower part. Permeability is slow, and available water capacity is moderate. The shrink-swell potential is high. During winter and spring, this soil is wet. During summer, it dries out and cracks and is droughty.

This soil is used mostly for pasture or woodland. It is poorly suited to row crops because of the wetness and the clay subsoil. It is moderately suited to pasture. It is best suited to water-tolerant grasses, such as tall fescue.

This soil is moderately suited to woodland. The equipment limitation and seedling mortality are moderate because of the wetness. Plant competition is a management concern where seedlings are newly planted. Suitable species include sweetgum and loblolly pine.

This soil is poorly suited to urban uses because of the wetness, the slow permeability, low strength, and the high shrink-swell potential. Overcoming these limitations is difficult.

The capability subclass is IVw.

Ea—Eagleville silty clay loam, occasionally flooded. This moderately deep, somewhat poorly drained, nearly level soil is on flood plains along creeks and in narrow drainageways. Slopes range from 0 to 2 percent. Individual areas range from 4 to 40 acres in size.

Typically, the surface layer is very dark grayish brown and very dark brown silty clay loam about 13 inches thick. The subsoil is dark grayish brown and olive gray clay that has mottles in shades of brown and gray. Limestone bedrock is at a depth of about 31 inches.

Included with this soil in mapping are small areas of Agee soils, which are poorly drained and more than 40 inches deep. Also included are small areas of a soil that is less than 20 inches deep over limestone and a few areas that have outcrops of limestone. Included areas make up about 10 to 15 percent of the unit.

The Eagleville soil is medium in natural fertility and organic matter content. It ranges from slightly acid to mildly alkaline. Permeability is slow, and available water capacity is moderate. The root zone is only moderately deep because of the clay subsoil. This soil is occasionally flooded for very brief periods.

Most areas are used for pasture. Some are used for soybeans or woodland. This soil is poorly suited to most row crops. It is moderately suited to soybeans where surface drainage is provided. It is moderately suited to pasture if water-tolerant grasses or legumes are used.

This soil is moderately suited to woodland. The equipment limitation and seedling mortality are moderate because of the wetness. Plant competition is a management concern where seedlings are newly planted. Suitable species include eastern cottonwood, sweetgum, and loblolly pine.

This soil is not suited to most urban uses because of the flooding and the wetness.

The capability subclass is IIIw.

Eg—Egam silty clay loam, occasionally flooded. This deep, moderately well drained, nearly level soil formed in clayey alluvium. It is on flood plains and in narrow drainageways throughout the county. Slopes range from 0 to 2 percent. Individual areas range from 4 to 100 acres in size.

Typically, the surface layer is very dark grayish brown silty clay loam about 14 inches thick. The subsoil, from a depth of 14 to 51 inches, is very dark grayish brown silty clay that has mottles in shades of brown. From a depth of 51 to 62 inches, it is yellowish brown clay that has mottles in shades of brown and gray.

Included with this soil in mapping are small areas of Arrington soils, which are loamy and well drained. Also included are small areas of Capshaw soils, which have a lighter colored surface layer than that of the Egam soil and have a yellowish brown clayey subsoil. Included areas make up about 15 percent of the unit.

The Egam soil is high in natural fertility and moderate in organic matter content. It is medium acid to neutral. Permeability is moderately slow, and available water capacity is high. The root zone is deep. This soil is occasionally flooded for very brief periods.

This soil is used mostly for cultivated crops. In some areas it is used for pasture or woodland. It is well suited to cultivated crops, hay, and pasture. The flooding occasionally causes minor crop damage but seldom causes severe damage. Erosion is not a management concern on this soil, but scouring occurs in some drainageways.

This soil is well suited to black walnut, yellow-poplar, and loblolly pine. Seedling mortality and plant competition where seedlings are newly planted are the only significant management concerns. Seedling mortality is moderate because of the flooding.

This soil is not suited to most urban uses because of the flooding. Low strength is a severe limitation on sites for roads and streets.

The capability subclass is IIw.

GaC—Gladeville-Rock outcrop complex, 2 to 15 percent slopes. This map unit occurs as areas of an undulating and rolling Gladeville soil and limestone outcrop. The Gladeville soil makes up about 50 to 75 percent of each mapped area, and the Rock outcrop makes up 10 to 25 percent. The Gladeville soil and Rock outcrop occur as areas so intermingled they could not be separated at the scale selected for mapping. The unit is in the inner part of the Central Basin. Individual areas range from about 4 to 400 acres in size. Areas dominated by this unit are commonly referred to as "The Glades."

Typically, the surface layer of the Gladeville soil is very dark grayish brown and dark brown flaggy silty clay loam about 7 inches thick. The substratum is brown very flaggy clay. Hard, thinly bedded limestone bedrock is at a depth of about 9 inches.

The Gladeville soil is medium in natural fertility and moderate in organic matter content. It is neutral to moderately alkaline. Permeability is moderate, and available water capacity is very low. The root zone is very shallow over bedrock.

The Rock outcrop consists of narrow bands or ledges and nearly level areas of exposed limestone bedrock. Areas of the Rock outcrop range from about 0.1 to 1.0 acre in size. The bands and ledges generally follow the contour of the slope.

Included in mapping are areas of a channery silt loam that is 2 to 6 inches deep over bedrock. These are mostly open areas that have no trees or only a few scattered trees and shrubs. Also included are small areas of a soil that is 12 to 20 inches deep over bedrock and contains fewer fragments than the Gladeville soil and small areas of Talbott soils, which are clayey and 20 to 40 inches deep over bedrock. Included areas make up about 10 to 30 percent of each mapped area.

Nearly all of the acreage in this map unit is used as woodland or pasture. Most of the areas used for pasture are adjacent to the more productive soils and are managed along with these soils. Many areas have only sparse stands of shrubs, small sedges, pricklypear, and native grasses.

This unit is poorly suited to pasture, hay, and cultivated crops because of the depth to bedrock, the very low available water capacity, the large amount of rock fragments, and the Rock outcrop.

This map unit is poorly suited to woodland; however, woodland is the best use in most places. Productivity is low because of a very shallow root zone and the very low available water capacity. Seedling mortality and the hazard of windthrow are severe management concerns. Eastern redcedar, hackberry, and hickory are the main trees (fig. 11).

This unit is poorly suited to urban uses because of the very shallow depth to bedrock, the large amount of rock fragments, and the Rock outcrop.

The capability subclass is VIIs.

HaB2—Hampshire silt loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is on ridgetops in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 30 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the

Figure 11.—Eastern redcedar, hackberry, shrubs, and native grasses in an area of Gladeville-Rock outcrop complex, 2 to 15 percent slopes.

original surface layer. The subsoil is strong brown. In the upper few inches, it is silty clay loam. Below this it is silty clay or clay. The substratum, from a depth of 40 to 50 inches, is strong brown very channery loam. Rippable bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of Mimosa and Stiversville soils. Mimosa soils have hard bedrock at a depth of 40 to 60 inches. Stiversville soils are loamy. Included areas make up about 20 percent of the unit.

The Hampshire soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas. Permeability is moderately slow, and available water capacity is moderate or high.

Nearly all areas have been cleared of trees. Most areas are used for row crops, hay, or pasture. This soil is well suited to these uses. It is suited to most of the crops and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black locust, and loblolly pine.

This soil is moderately suited to some urban uses and poorly suited to others. The moderately slow permeability is a severe limitation on sites for septic tank absorption fields. Low strength is a severe limitation on sites for local roads and streets. It can be minimized by using additional crushed stone on the roadbed.

The capability subclass is IIe.

HaC2—Hampshire silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on ridgetops and the upper side slopes in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is brown silt loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil is strong brown. In the upper few inches, it is silty clay loam. Below this it is silty clay or clay. The substratum, from a depth of 40 to 50 inches, is strong brown very channery loam. Rippable bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of Stiversville and Inman soils. Stiversville soils are loamy. Inman soils are 20 to 40 inches deep over rippable bedrock and are flaggy. Included areas make up about 15 percent of the unit.

The Hampshire soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas. Permeability is moderately slow, and available water capacity is moderate or high.

This soil is used mostly for hay or pasture, but small grain or row crops are grown in a few areas. This soil is moderately suited to row crops and well suited to hay and pasture (fig. 12). Erosion is a severe hazard if row crops are grown.

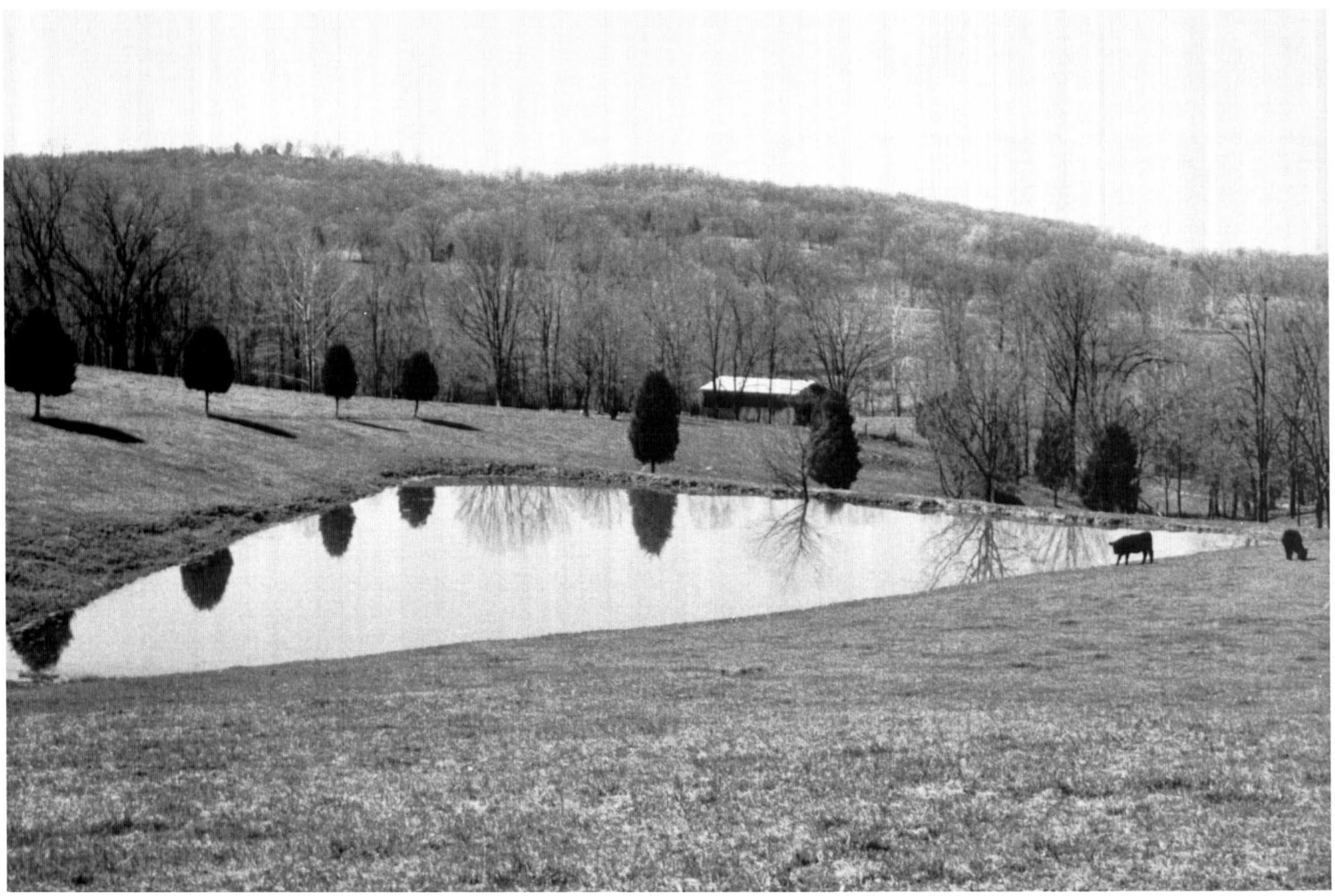

Figure 12.—A pond in an area of Hampshire silt loam, 5 to 12 percent slopes, eroded. The area is used as pasture.

This soil is well suited to woodland. The only significant management concerns are a moderate hazard of erosion during site preparation and plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black locust, and loblolly pine.

This soil is moderately suited to some urban uses and poorly suited to others. The moderately slow permeability is a severe limitation on sites for septic tank absorption fields. Low strength is a severe limitation on sites for local roads and streets. It can be minimized by using additional crushed stone on the roadbed. Other limitations can be overcome by proper design, layout, and installation.

The capability subclass is IIIe.

HaD2—Hampshire silt loam, 12 to 20 percent slopes, eroded. This deep, well drained, moderately steep soil is on hillsides in the outer part of the Central Basin. Slopes are convex. Individual areas range from about 4 to 80 acres in size.

Typically, the surface layer is brown silt loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil is strong brown. In the upper few inches, it is silty clay loam. Below this it is silty clay or clay. The substratum, from a depth of 40 to 50 inches, is strong brown very channery loam. Rippable bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of Inman and Stiversville soils. Inman soils are 20 to 40 inches deep over rippable bedrock and are flaggy. Stiversville soils are loamy. Included areas make up about 15 percent of the unit.

The Hampshire soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in recently limed areas. Permeability is moderately slow, and available water capacity is moderate or high.

This soil is used mostly for hay or pasture. It is poorly suited to row crops, moderately suited to hay, and well suited to pasture. The slope is a limitation affecting the use of equipment. Erosion is a severe hazard if row crops are grown.

This soil is moderately suited to woodland. Management concerns include the hazard of erosion, an equipment limitation, and plant competition where seedlings are newly planted. Suitable species include black locust, loblolly pine, and yellow-poplar.

This soil is poorly suited to most urban uses because of the slope, the moderately slow permeability, and low strength.

The capability subclass is IVe.

HaD3—Hampshire silty clay loam, 12 to 20 percent slopes, severely eroded. This deep, well drained, moderately steep soil is on hillsides in the outer part of the Central Basin. Slopes are convex. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is yellowish brown silty clay loam about 6 inches thick. It is mostly subsoil material because erosion has removed most or all of the original surface layer. Clay is exposed in rills and shallow gullies in some areas. The subsoil is strong brown silty clay and clay. The substratum, from a depth of 34 to 42 inches, is strong brown very channery loam. Rippable bedrock is at a depth of about 42 inches.

Included with this soil in mapping are small areas of Inman and Stiversville soils. Inman soils are flaggy and are less than 40 inches deep over bedrock. Stiversville soils are loamy. Included areas make up about 15 percent of the unit.

The Hampshire soil is low in natural fertility and organic matter content. It is medium acid or strongly acid. Permeability is moderately slow, and available water capacity is moderate.

This soil is used mostly as pasture or woodland. Some areas that have been left idle or used as unimproved pasture have been invaded by trees, mainly black locust and redcedar. This soil is moderately suited to pasture and poorly suited to row crops and hay. Erosion is a severe hazard unless a good plant cover is maintained.

This soil is moderately suited to woodland. The hazard of erosion is moderate during site preparation. The equipment limitation and plant competition are moderate. Suitable species include black locust, loblolly pine, and redcedar.

This soil is poorly suited to most urban uses because of the slope, the moderately slow permeability, and low strength.

The capability subclass is VIe.

HbD—Hawthorne cherty silt loam, 5 to 20 percent slopes. This moderately deep, somewhat excessively drained, sloping and moderately steep soil is on ridgetops and the upper side slopes of the Highland Rim. Individual areas range from about 4 to 40 acres in size.

Typically, the surface layer is dark grayish brown cherty silt loam about 8 inches thick. The subsoil is yellowish brown very channery silt loam. Rippable bedrock is at a depth of about 28 inches.

Included with this soil in mapping are small areas of a soil that is similar to the Hawthorne soil but is more than 40 inches deep over rippable bedrock. Included areas make up about 10 percent of the unit.

The Hawthorne soil is low in natural fertility and organic matter content. It is strongly acid or very strongly acid. Permeability is moderately rapid, and available water capacity is low. The root zone is moderately deep. The available water capacity is limited by the depth to bedrock and the large amount of rock fragments in the soil.

Most areas have been cleared of trees and were cultivated but are now used as pasture or have reverted to woodland. This soil is moderately suited to pasture and hay and is poorly suited to row crops. The small size and irregular shape of the areas, the slope, rock fragments, and the low available water capacity are limitations affecting farming.

This soil is moderately suited to woodland. Management concerns include seedling mortality and the hazard of windthrow. Suitable species include loblolly pine, shortleaf pine, southern red oak, chestnut oak, and scarlet oak.

This soil has properties that indicate it is moderately suited to many urban uses. In Wilson County, however, it is poorly suited to most urban uses because it is in a remote part of the county and consists of small irregularly shaped areas that are adjacent to steep soils.

The capability subclass is VIs.

HbF—Hawthorne cherty silt loam, 30 to 60 percent slopes. This moderately deep, somewhat excessively drained, steep and very steep soil is on hillsides of the Highland Rim. Individual areas range from about 4 to more than 200 acres in size.

Typically, the surface layer is dark grayish brown and brown cherty silt loam about 8 inches thick. The subsoil is yellowish brown very channery silt loam. Rippable bedrock is at a depth of about 28 inches.

Included with this soil in mapping are small areas of a soil that is similar to the Hawthorne soil but is more than 40 inches deep over bedrock and areas of Dellrose soils, which contain less chert and are deeper than the Hawthorne soil. Also included are areas that have some rock outcrop on south-facing slopes. Included areas make up about 20 percent of the unit.

The Hawthorne soil is low in natural fertility and organic matter content. It is strongly acid or very strongly acid. Permeability is moderately rapid. The root zone is moderately deep over bedrock. The available water capacity is low because of the depth to bedrock and the large amount of rock fragments in the soil.

Most areas are used as woodland. The soil is poorly suited to crops and pasture because of the slope and the low available water capacity.

This soil is poorly suited to woodland; however, woodland is commonly the best use. Management concerns include the hazard of erosion, seedling mortality, and an equipment limitation. Common trees include shortleaf pine, southern red oak, chestnut oak, and mockernut hickory.

This soil is poorly suited to urban uses. The slope is a severe limitation. Overcoming this limitation is difficult.

The capability subclass is VIIs.

HcB—Hicks silt loam, 2 to 5 percent slopes. This deep, well drained, gently sloping soil is on ridgetops in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. The upper part of the subsoil is strong brown silt loam and silty clay loam. The lower part is mottled yellowish brown and strong brown clay loam. Rippable bedrock is at a depth of about 45 inches.

Included with this soil in mapping are small areas of Hampshire and Inman soils. Hampshire and Inman soils have a clayey subsoil. Also, Inman soils are less than 40 inches deep over bedrock. Included areas make up about 20 percent of the unit.

The Hicks soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. Septic tank absorption fields have a moderate limitation because of the depth to bedrock. Low strength is a severe limitation on sites for roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIe.

HcC2—Hicks silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on convex ridgetops and the upper part of side slopes in the outer part of the Central Basin. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is strong brown silt loam and silty clay loam. The lower part is mottled yellowish brown and strong brown clay loam. Rippable bedrock is at a depth of about 45 inches.

Included with this soil in mapping are small areas of Hampshire and Inman soils. Hampshire and Inman soils have a clayey subsoil. Also, Inman soils are less than 40 inches deep over bedrock. Included areas make up about 20 percent of the unit.

The Hicks soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is moderately suited to cultivated crops and well suited to hay and pasture. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concerns are erosion during site preparation and plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. The depth to bedrock is a moderate limitation on sites for septic tank absorption fields. Low strength is a severe limitation on sites for roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIIe.

HoB2—Holston loam, 2 to 8 percent slopes, eroded. This deep, well drained, gently sloping soil is on stream terraces near the Cumberland River. Slopes are smooth and convex. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is brown loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil extends to a depth of 60 inches. In the upper part it is strong brown clay loam. In the lower part it is strong brown and yellowish brown sandy clay loam.

Included with this soil in mapping are small areas of a soil that is redder than the Holston soil and is sandy loam in the lower part of the subsoil. Included areas make up about 20 percent of the unit.

The Holston soil is low in natural fertility and organic matter content. Reaction generally is strongly acid or very strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, shortleaf pine, and loblolly pine.

This soil is well suited to most urban uses. It has no limitations that cannot be overcome by good design and careful installation.

The capability subclass is IIe.

InC2—Inman flaggy silty clay loam, 5 to 12 percent slopes, eroded. This moderately deep, well drained, sloping soil is on rounded hilltops in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is dark grayish brown flaggy silty clay loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil is flaggy silty clay. In the upper part it is yellowish brown. In the lower part it is light olive brown, has brownish mottles, and has gray seams of unweathered rock. Rippable limestone and shale bedrock is at a depth of about 25 inches.

Included with this soil in mapping are small areas of Hampshire and Talbott soils. Hampshire soils are 40 to 60 inches deep over bedrock and are higher on the landscape than the Inman soil. Talbott soils have a redder subsoil than the Inman soil, are 20 to 40 inches deep over bedrock, and are lower on the landscape. Included areas make up about 20 percent of the unit.

The Inman soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid to neutral, but thin layers near the bedrock are medium acid to mildly alkaline. Permeability is moderately slow, and available water capacity is low. This soil has a moderately deep or shallow root zone and cannot be easily tilled.

This soil is used mostly for pasture or woodland. It is poorly suited to cultivated crops and moderately suited to pasture. Yields of most grasses and legumes are limited by the rooting depth and the available water capacity. Eastern redcedar invades pastures unless a herbicide is applied.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Seedling mortality and an equipment limitation are management concerns because of the clayey subsoil near the surface. Suitable species include shortleaf pine, black walnut, loblolly pine, and black locust.

This soil is poorly suited to most urban uses. The depth to bedrock and the clayey, slowly permeable subsoil are limitations. Overcoming these limitations is difficult.

The capability subclass is IVe.

InD2—Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded. This moderately deep, well drained, moderately steep soil is on hillsides in the outer part of the Central Basin. Slopes are irregular and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark grayish brown flaggy silty clay loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil is flaggy silty clay. In the upper part it is yellowish brown. In the lower part it is light olive brown, has brownish mottles, and has gray seams of weathered rock. Rippable limestone and shale bedrock is at a depth of about 25 inches.

Included with this soil in mapping are small areas of Hampshire and Talbott soils. Hampshire soils are 40 to 60 inches deep over bedrock. Talbott soils are 20 to 40 inches deep over hard bedrock and have a redder subsoil than the Inman soil. Included areas make up about 15 percent of the unit.

The Inman soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid to neutral, but thin layers near the bedrock are medium acid to mildly alkaline. Permeability is moderately slow, and available water capacity is low. This soil has a moderately deep or shallow root zone and cannot be easily tilled.

This soil is used mostly for pasture or woodland. It is moderately suited to pasture and not suited to cultivated crops. Yields are low because of the rooting depth and the low available water capacity.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Seedling mortality and an equipment limitation are management concerns because of the clayey subsoil near the surface. Suitable species include shortleaf pine, black locust, and loblolly pine.

This soil is poorly suited to most urban uses. The depth to bedrock and the clayey, slowly permeable subsoil are limitations. Overcoming these limitations is difficult.

The capability subclass is VIe.

InE2—Inman flaggy silty clay loam, 20 to 30 percent slopes, eroded. This moderately deep, well drained, steep soil is on hillsides in the outer part of the Central Basin. Slopes are irregular and complex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark grayish brown flaggy silty clay loam about 5 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The subsoil is flaggy silty clay. In the upper part it is yellowish brown. In the lower part it is light olive brown, has brownish mottles, and has gray seams of weathered rock. Rippable limestone and shale bedrock is at a depth of about 25 inches.

Included with this soil in mapping are small areas of Stiversville, Hampshire, and Talbott soils. Stiversville soils are loamy and are higher on the landscape than the Inman soil. Hampshire soils are 40 to 60 inches deep over bedrock. Talbott soils have a redder subsoil than the Inman soil, are 20 to 40 inches deep over hard bedrock, and are lower on the landscape. Included areas make up about 20 percent of the unit.

The Inman soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid to neutral, but thin layers near the bedrock are medium acid to mildly alkaline. Permeability is moderately slow, and available water capacity is low. This soil has a moderately deep or shallow root zone and cannot be easily tilled.

This soil is used mostly for pasture or woodland. It is poorly suited to pasture and is not suited to cultivated crops. Establishing and renovating pasture are difficult because of the slope. Yields of grasses and legumes are low because of the rooting depth and the low available water capacity.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. The hazard of erosion, seedling mortality, and an equipment limitation are management concerns because of the clayey subsoil near the surface and the slope. Suitable species include shortleaf pine, loblolly pine, and black locust.

This soil is poorly suited to most urban uses. The depth to bedrock, the slope, and the clayey, slowly permeable subsoil are limitations. Overcoming these limitations is difficult.

The capability subclass is VIIe.

Ld—Lindell silt loam, occasionally flooded. This deep, moderately well drained, nearly level soil formed in loamy alluvium. It is on the flood plains along creeks and narrow drainageways throughout the county (fig. 13). Slopes range from 0 to 2 percent. Individual areas range from 4 to about 300 acres in size.

Typically, the surface layer is brown silt loam about 6 inches thick. The subsoil, from a depth of 6 to 24 inches, is brown silt loam that has dark grayish brown

Figure 13.—An area of Lindell silt loam, occasionally flooded, which occurs as long, narrow areas along small streams and drainageways.

mottles. From a depth of 24 to 60 inches, it is dark gray and gray clay loam that has mottles in shades of brown.

Included with this soil in mapping are small areas of Byler and Norene soils. Byler soils are on adjacent stream terraces, are moderately well drained, and have a fragipan. Norene soils are in slight depressions and are poorly drained. Included areas make up about 15 percent of the unit.

The Lindell soil is high in natural fertility and moderate in organic matter content. It is medium acid to neutral. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots. This soil is occasionally flooded for brief periods.

This soil is used mostly for cultivated crops. In some areas it is used for pasture or woodland. It is well suited to cultivated crops, hay, and pasture. The flooding occasionally causes minor crop damage but seldom causes severe damage. Erosion is not a management concern on this soil, but swift floodwater causes scouring in a few areas.

This soil is well suited to black walnut, yellow-poplar, and loblolly pine. The only significant management concern is plant competition where seedlings are newly planted.

This soil is not suited to most urban uses because of the flooding and seasonal wetness.

The capability subclass is IIw.

LoB—Lomond silt loam, 2 to 5 percent slopes. This deep, well drained, gently sloping soil is on broad, smooth ridgetops in the inner part of the Central Basin. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark reddish brown silt loam about 8 inches thick. The upper part of the subsoil is reddish brown and yellowish red silty clay loam. The lower part is strong brown silty clay. Hard limestone bedrock is at a depth of more than 60 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and Talbott soils, which are 20 to 40 inches deep over bedrock. Also included is a soil that is similar to the Lomond soil but has a lighter colored surface layer. Included areas make up about 25 percent of the unit.

The Lomond soil is medium in natural fertility and low or moderate in organic matter content. It ranges from slightly acid to strongly acid. Permeability is moderate, and available water capacity is high. This soil has a deep root zone and is easily tilled.

This soil is used mostly for cultivated crops, hay, or pasture. It is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. Low strength is a severe limitation on sites for local roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIe.

LoC2—Lomond silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on smooth side slopes in the inner part of the Central Basin. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark reddish brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is reddish brown and yellowish red silty clay loam. The lower part is strong brown silty clay. Hard limestone bedrock is at a depth of more than 60 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and Talbott soils, which are 20 to 40 inches deep over bedrock. Also included is a soil that is similar to the Lomond soil but has a lighter colored surface layer. Included areas make up about 25 percent of the unit.

The Lomond soil is medium in natural fertility and low in organic matter content. It ranges from slightly acid to strongly acid. Permeability is moderate, and available water capacity is high. This soil has a deep root zone and is easily tilled.

This soil is used mostly for cultivated crops, hay, or pasture. It is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concerns are erosion during site preparation and plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. Low strength is a severe limitation on sites for local roads and streets but can be overcome by good design and careful installation.

The capability subclass is IIIe.

MaB2—Maury silt loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is mostly on broad ridges in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark brown silt loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is yellowish red silty clay loam. The lower part is red silty clay and clay. Hard limestone bedrock is at a depth of more than 60 inches.

Included with this soil in mapping are small areas of Stiversville and Armour soils. Stiversville soils have a loamy subsoil and are 40 to 60 inches deep over bedrock. Armour soils have a silty subsoil that is browner than that of the Maury soil. Included areas make up about 15 percent of the unit.

The Maury soil is medium in natural fertility and low in organic matter content. It ranges from slightly acid to strongly acid. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, black locust, southern red oak, and loblolly pine.

This soil is well suited to most urban uses. The clayey subsoil and low strength are limitations affecting some uses. These limitations can be overcome by good design and careful installation.

The capability subclass is IIe.

MaC2—Maury silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on side slopes having rolling topography in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark brown silt loam about 6 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is yellowish red silty clay loam. The lower part is red silty clay and clay. Hard limestone bedrock is at a depth of more than 60 inches.

Included with this soil in mapping are small areas of Stiversville and Armour soils. Stiversville soils have a loamy subsoil and are 40 to 60 inches deep over bedrock. Armour soils have a silty subsoil that is browner than that of the Maury soil. Included areas make up about 20 percent of the unit.

The Maury soil is medium in natural fertility and low in organic matter content. It ranges from slightly acid to strongly acid. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is moderately suited to cultivated crops and well suited to hay and pasture. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, black locust, southern red oak, and loblolly pine.

This soil is well suited to most urban uses. The clayey subsoil and low strength are limitations affecting some uses. These limitations can be overcome by good design and careful installation.

The capability subclass is IIIe.

MmC2—Mimosa silty clay loam, 3 to 12 percent slopes, eroded. This deep, well drained, gently sloping and sloping soil is on uplands in the outer part of the Central Basin. Individual areas range from about 4 to 60 acres in size.

Typically, the surface layer is dark brown and brown silty clay loam about 7 inches thick. It contains some material from the subsoil because erosion has removed part of the original surface layer. The upper 6 inches of the subsoil is dark yellowish brown silty clay loam. Below this the subsoil is yellowish brown and strong brown clay that has mottles in shades of brown. The substratum, from a depth of 52 to 55 inches, is light olive brown clay that has gray mottles. Limestone bedrock is at a depth of about 55 inches.

Included with this soil in mapping are small areas of a soil that is less than 40 inches deep over bedrock. Also included are small areas of a moderately well drained soil along drainageways. Included areas make up about 10 to 20 percent of the unit.

The Mimosa soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer and the layer directly above the bedrock are normally less acid. Permeability is slow, and available water capacity is moderate. The shrink-swell potential is moderate. The root zone is deep, but roots have difficulty penetrating the very firm clay in the subsoil.

Most of the acreage is used as pasture or hayland. A few areas are used for cultivated crops or woodland. This soil is poorly suited to cultivated crops and moderately suited to hay and pasture. The moderate available water capacity and slow root growth in the very firm clay subsoil limit yields. The hazard of erosion is severe if cultivated crops are grown.

This soil is moderately suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include loblolly pine, southern red oak, and eastern redcedar.

This soil is poorly suited to most urban uses. The slow permeability, low strength, and the moderate shrink-swell potential are limitations affecting most urban uses. These limitations can be partly overcome for many uses by good design and installation. Overcoming the limitations is difficult, however, on sites for septic tanks.

The capability subclass is IVe.

MmD2—Mimosa silty clay loam, 12 to 25 percent slopes, eroded. This deep, well drained, moderately steep soil is on uplands in the outer part of the Central Basin. Individual areas range from about 4 to 60 acres in size.

Typically, the surface layer is dark brown and brown silty clay loam about 7 inches thick. It contains some material from the subsoil because erosion has removed part of the original surface layer. The upper 6 inches of the subsoil is dark yellowish brown silty clay loam. Below this the subsoil is yellowish brown and strong brown clay that has mottles in shades of brown. The substratum, from a depth of 52 to 55 inches, is light olive brown clay that has gray mottles. Limestone bedrock is at a depth of about 55 inches.

Included with this soil in mapping are small areas of a soil that is less than 40 inches deep over bedrock. Also included are small areas of a moderately well drained soil along drainageways. Included areas make up about 10 to 20 percent of the unit.

The Mimosa soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer and the layer directly above the bedrock are normally less acid. Permeability is slow, and available water capacity is moderate. The shrink-swell potential is moderate. The root zone is deep, but roots have difficulty penetrating the very firm clay in the subsoil.

Most of the acreage is used as pasture or hayland. A few areas are used as woodland. This soil is not suited to cultivated crops and is moderately suited to hay and pasture. The moderate available water capacity and slow root growth in the very firm clay subsoil limit yields.

This soil is moderately suited to woodland. Erosion is a hazard during site preparation, and the slope results in an equipment limitation. Suitable species include loblolly pine, southern red oak, and eastern redcedar.

This soil is poorly suited to most urban uses. The slope, the slow permeability, low strength, and the moderate shrink-swell potential are limitations affecting most urban uses. Overcoming these limitations for most uses is difficult.

The capability subclass is VIe.

MrC2—Mimosa-Rock outcrop complex, 3 to 15 percent slopes. This map unit occurs as areas of a Mimosa soil and areas of limestone outcrop. The composition of mapped areas varies but averages about 65 percent Mimosa soil and 20 percent Rock outcrop. The Mimosa soil and Rock outcrop occur as areas so intermingled that they could not be separated at the scale selected for mapping. The unit is on narrow ridgetops and side slopes in the outer part of the Central Basin.

Typically, the surface layer of the Mimosa soil is brown silt loam about 7 inches thick. It contains some material from the subsoil because erosion has removed part of the original surface layer. The subsoil is yellowish brown and strong brown clay. The substratum, from a depth of 48 to 52 inches, is light olive brown clay that has gray mottles. Limestone bedrock is at a depth of about 52 inches.

The Rock outcrop consists of exposed limestone bedrock, generally narrow bands or ledges that follow the contour of the slope and protrude 1 to 3 feet above the surface. It also occurs in some scattered areas.

Included in mapping are small areas of a soil that is similar to the Mimosa soil but is about 10 to 40 inches deep over bedrock. Included areas make up about 15 percent of the unit.

The Mimosa soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the layer directly above the bedrock is normally less acid. Permeability is slow, and available water capacity is moderate. The shrink-swell potential is moderate. The root zone is deep, but roots have difficulty penetrating the very firm clay in the subsoil.

Most areas of this unit are used as native pasture or woodland. This unit is not suited to cultivated crops and hay. Although clipping and applying fertilizer are difficult in most areas because of the Rock outcrop, managing some areas for improved pasture is feasible.

This map unit is moderately suited to woodland. The Rock outcrop interferes with the equipment used in planting and harvesting trees. Loblolly pine is suited to planting. Redcedar seeds naturally.

The unit is poorly suited to most urban uses. The Rock outcrop, the slow permeability, low strength, and the depth to bedrock are limitations. Overcoming these limitations for most uses is difficult.

The capability subclass is VIs.

MrE2—Mimosa-Rock outcrop complex, 15 to 35 percent slopes. This map unit occurs as areas of a Mimosa soil and areas of limestone outcrop. The composition of mapped areas varies but averages about 60 percent Mimosa soil and 25 percent Rock outcrop. The Mimosa soil and Rock outcrop occur as areas so intermingled that they could not be separated at the scale selected for mapping. The unit is on hillsides in the outer part of the Central Basin.

Typically, the surface layer of the Mimosa soil is brown silty clay loam about 6 inches thick. It contains some material from the subsoil because erosion has removed part of the original surface layer. The subsoil is yellowish brown and strong brown clay. The substratum, from a depth of 40 to 46 inches, is light olive brown clay that has gray mottles. Limestone bedrock is at a depth of about 46 inches.

The Rock outcrop consists of exposed limestone bedrock, generally narrow bands or ledges that follow the contour of the slope and protrude 1 to 3 feet above the surface. It also occurs in some scattered areas.

Included in mapping are small areas of a soil that is similar to the Mimosa soil but is about 10 to 40 inches deep over bedrock. Included areas make up about 15 percent of the unit.

The Mimosa soil is low in natural fertility and organic matter content. Reaction is generally medium acid or strongly acid, but the layer directly above the bedrock is normally less acid. Permeability is slow, and available water capacity is moderate. The shrink-swell potential also is moderate. The root zone is deep, but roots have difficulty penetrating the very firm clay in the subsoil.

Most areas of this unit are used as native pasture or woodland. This unit is not suited to cultivated crops and hay. Although clipping and applying fertilizer are difficult because of the Rock outcrop and the slope, managing some areas for improved pasture is feasible.

This map unit is moderately suited to woodland. The slope and the Rock outcrop interfere with the equipment used in planting and harvesting trees. Loblolly pine is suited to planting. Redcedar seeds naturally.

This unit is poorly suited to urban uses. The slope, the Rock outcrop, the slow permeability, low strength, and the depth to bedrock are limitations. Overcoming these limitations for most uses is very difficult.

The capability subclass is VIIs.

NeB—Nesbitt silt loam, 2 to 5 percent slopes. This deep, moderately well drained, gently sloping soil formed in old silty alluvium or valley fill and the underlying clayey residuum of limestone. It is on smooth uplands in the inner part of the Central Basin. Individual areas range from 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. The subsoil, from a depth of 7 to 27 inches, is yellowish red silty clay loam that has brownish mottles. From a depth of 27 to 40 inches, it is strong brown silty clay loam that has mottles in shades of gray and brown and is brittle in 40 to 50 percent of the volume. Below a depth of 40 inches, the subsoil is strong brown clay that has mottles in shades of brown and gray. In places the depth to clay is 50 inches or more.

Included with this soil in mapping are small areas of Byler soils, which are moderately well drained and have a fragipan. Also included are a few small areas of a well drained soil. Included areas make up about 10 to 15 percent of the unit.

The Nesbitt soil is medium in natural fertility and low in organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer is less acid in limed areas. Permeability is moderately slow, and available water capacity is high. The root zone is deep, but root growth is slightly restricted below a depth of about 2 feet.

Most of the acreage is used for cultivated crops, hay, or pasture. This soil is well suited to cultivated crops, hay, and pasture. The hazard of erosion is moderate if cultivated crops are grown. Conservation tillage, crop rotation, and contour farming help to control erosion and runoff.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include southern red oak, black walnut, loblolly pine, and shortleaf pine.

This soil is moderately suited to most urban uses. The wetness is a moderate limitation affecting most urban uses. Permeability is a severe limitation on sites for septic tank absorption fields.

The capability subclass is IIe.

No—Norene silt loam, rarely flooded. This deep, nearly level, poorly drained soil formed in medium textured alluvium. It is along drainageways, on broad flats, and in slight depressions at the head of drainageways. Slopes are mostly 1 percent or less but range from 0 to 2 percent. Individual areas range from about 4 to 90 acres in size.

Typically, the surface layer is grayish brown silt loam about 9 inches thick. The subsurface layer, from a depth of 9 to 15 inches, is dark grayish brown silt loam that has mottles in shades of brown. The subsoil, from a depth of 15 to 42 inches, is gray silty clay loam that has mottles in shades of brown. The substratum is gray silty clay that has mottles in shades of brown. Limestone bedrock is at a depth of more than 60 inches.

Included with this soil in mapping are small areas of Agee, Woodmont, and Lindell soils. Agee soils are clayey and are darker than the Norene soil. Woodmont soils are on adjacent stream terraces, are somewhat poorly drained, and have a fragipan in the subsoil. Lindell soils are on adjacent flood plains and are moderately well drained. Included areas make up about 20 percent of the unit.

The Norene soil is medium in natural fertility and low in organic matter content. It is medium acid to neutral. Permeability is moderate in the upper 3 to 4 feet and moderately slow in the lower part. Available water capacity is high. The root zone is limited at times by a seasonal high water table. From January to March the soil is saturated in most places. At times it has a few inches of water on the surface. The wetness is caused by a high water table and runoff from the higher adjacent soils. This soil is subject to rare flooding during periods of unusually high rainfall.

This soil is used mostly for pasture or woodland. It is moderately suited to short-season crops, such as soybeans and grain sorghum, that can be planted late in the spring and to pasture plants that can withstand the wetness. Where drained, the soil also is suited to corn.

This soil is moderately suited to woodland. Management concerns include seedling mortality and an equipment limitation because of the wetness and plant competition where seedlings are newly planted. Suitable species include eastern cottonwood and sweetgum.

This soil is poorly suited to most urban uses because of a seasonal high water table and ponding for short periods. The flooding is a severe limitation affecting some uses, such as dwellings.

The capability subclass is IVw.

Pt—Pits and Dumps. This unit consists of areas where rock has been excavated and crushed to make gravel and agricultural lime and areas where crushed gravel, agricultural lime, soil overburden, and undesirable rock are stockpiled. The unit is in undulating and rolling areas in the inner part of the Central Basin. Slopes range from nearly level to vertical. Individual areas range from about 4 to 100 acres in size.

Nearly all areas of this unit are bare of vegetation. A few areas that have been abandoned for several years, however, support a few small redcedar trees.

This unit is not suited to crops, pasture, woodland, or urban uses without major reclamation.

This unit has not been assigned a capability classification.

RoE—Rock outcrop-Mimosa-Gladeville complex, 15 to 35 percent slopes. This map unit occurs as areas of limestone outcrop and areas of moderately steep and steep Mimosa and Gladeville soils. The composition of mapped areas varies, but generally the Rock outcrop makes up about 30 to 60 percent of the areas, the Mimosa soil makes up 10 to 35 percent, and the Gladeville soil makes up 5 to 30 percent. The Rock outcrop and Mimosa and Gladeville soils occur as areas so intermingled that they could not be separated at the scale selected for mapping. The unit is on hillsides at the base of the Highland Rim escarpment and outlying ridges and knobs. It is mostly in the southeastern part of the county. Individual areas range from about 10 to 150 acres in size.

The Rock outcrop generally consists of exposed bands or ledges of limestone that follow the contour of the slope. The bands and ledges protrude from a few inches to about 4 feet above the surface.

Typically, the surface layer of the Mimosa soil is dark brown silt loam about 6 inches thick. The subsoil is dark yellowish brown and strong brown. In the upper few inches, it is silty clay loam. Below this it is clay. The substratum, from a depth of 43 to 47 inches, is light olive brown clay. Limestone bedrock is at a depth of about 46 inches.

Typically, the surface layer of the Gladeville soil is very dark grayish brown flaggy silty clay loam about 6 inches thick. The substratum is brown very flaggy clay. Limestone bedrock is at a depth of about 9 inches.

Included in mapping are areas of a soil that is similar to the major soils but is about 20 to 40 inches deep over bedrock. Also included are small areas of Armour soils on narrow benches and foot slopes and areas on ridgetops that have a slope of less than 15 percent. Included areas make up about 5 to 15 percent of the unit.

The Mimosa and Gladeville soils are medium in natural fertility and low or moderate in organic matter content. The Gladeville soil is neutral to moderately alkaline, and the Mimosa soil is medium acid or strongly acid. Permeability is moderate in the Gladeville soil and slow in the Mimosa soil. Available water capacity is very low in the Gladeville soil and moderate in the Mimosa soil. The root zone is very shallow in the Gladeville soil because of the depth to bedrock. The root zone is only moderately deep in the Mimosa soil because of the clay.

Nearly all areas of this map unit are used as woodland. A few areas, however, support native pasture. This unit is not suited to cultivated crops or hay and is poorly suited to pasture because of the Rock outcrop.

This map unit is poorly suited to woodland; however, woodland is its most feasible use. Productivity is low because of the large amount of bedrock exposed on the surface and the limited root zone and available water capacity. The use of equipment, seedling mortality, and windthrow are significant management concerns. Eastern redcedar, hackberry, and pignut hickory are the dominant trees.

This map unit is poorly suited to urban uses. Overcoming the Rock outcrop, the depth to bedrock, and the slope is very difficult for most uses.

The capability subclass is VIIs.

StB—Stiversville silt loam, 2 to 5 percent slopes. This deep, well drained, gently sloping soil is on convex ridgetops in the outer part of the Central Basin. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is dark brown silt loam about 7 inches thick. The upper part of the subsoil is dark yellowish brown and strong brown silt loam, the next part is strong brown clay loam, and the lower part is strong brown and brown channery clay loam that has mottles in shades of brown. Rippable sandstone and siltstone bedrock is at a depth of about 50 inches.

Included with this soil in mapping are small areas of Maury and Hicks soils. Maury soils have a clayey subsoil and are more than 60 inches deep over bedrock. Hicks soils have a subsoil that contains less sand and has fewer rock fragments than that of the Stiversville soil. Included areas make about 15 percent of the unit.

The Stiversville soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderately rapid, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, black locust, and loblolly pine.

This soil is well suited to most urban uses. The depth to bedrock is a moderate limitation affecting some uses. It can, however, generally be overcome by good design and careful installation.

The capability subclass is IIe.

StC2—Stiversville silt loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on ridgetops and side slopes in the outer part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 50 acres in size.

Typically, the surface layer is dark brown silt loam about 7 inches thick. In places it contains material from the subsoil because erosion has removed part of the original surface layer. The upper part of the subsoil is dark yellowish brown and strong brown silt loam, the next part is strong brown clay loam, and the lower part is strong brown and brown channery clay loam that has mottles in shades of brown. Rippable sandstone and siltstone bedrock is at a depth of about 45 inches.

Included with this soil in mapping are small areas of Maury and Hicks soils. Maury soils have a clayey subsoil and are more than 60 inches deep over bedrock. Hicks soils have a subsoil that contains less sand and has fewer rock fragments than that of the Stiversville soil. Included areas make up about 15 percent of the unit.

The Stiversville soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderately rapid, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is moderately suited to cultivated crops and well suited to hay and pasture. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, black locust, and loblolly pine.

This soil is well suited to urban uses. The depth to bedrock and the slope are moderate limitations affecting some uses. These limitations can be overcome by good design and careful installation.

The capability subclass is IIIe.

StD2—Stiversville loam, 12 to 20 percent slopes, eroded. This deep, well drained, moderately steep soil is on side slopes of low ridges in the outer part of the Central Basin (fig. 14). Slopes are convex. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. It contains material from the subsoil because erosion has removed about one-half of the original surface layer. The upper part of the subsoil is strong brown silt loam and clay loam. The lower part is strong brown and brown channery clay loam. Rippable sandstone and siltstone bedrock is at a depth of about 42 inches.

Included with this soil in mapping are small areas of Hampshire and Inman soils. Inman soils are less than 40 inches deep over bedrock. Hampshire soils have a clayey subsoil. Included areas make up about 20 percent of the unit.

The Stiversville soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderately rapid, and available water capacity is high. The root zone is deep and can be penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for pasture or hay crops. This soil is poorly suited to cultivated crops, moderately suited to hay, and well suited to pasture. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The hazard of erosion and the equipment limitation are moderate because of the slope. Plant competition is significant where seedlings are newly planted. Suitable species include yellow-poplar, black locust, and loblolly pine.

This soil is moderately suited to most urban uses.

Figure 14.—A typical landscape in an area of Stiversville loam, 12 to 20 percent slopes, eroded, which is used mainly for hay and pasture.

The slope is a severe limitation affecting several uses. Good design can reduce the severity of the limitation.

The capability subclass is IVe.

StE2—Stiversville silt loam, 20 to 30 percent slopes, eroded. This deep, well drained, steep soil is on the sides of ridges in the outer part of the Central Basin. Areas range from about 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 7 inches thick. It contains material from the subsoil because erosion has removed about one-half of the original surface layer. The upper part of the subsoil is strong brown silt loam and clay loam. The lower part is strong brown and brown channery clay loam. Rippable sandstone and siltstone bedrock is at a depth of about 42 inches.

Included with this soil in mapping are small areas of Hampshire and Inman soils. Inman soils are less than 40 inches deep over bedrock. Hampshire soils have a clayey subsoil. Included areas make up about 20 percent of the unit.

The Stiversville soil is medium in natural fertility and low in organic matter content. It is medium acid or strongly acid. Permeability is moderately rapid, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for pasture. This soil is not suited to cultivated crops because of the slope. It is poorly suited to hay and moderately suited to pasture.

This soil is moderately suited to woodland. The equipment limitation and the hazard of erosion are moderate during site preparation and harvesting because of the slope. Suitable species include yellow-poplar, black locust, and loblolly pine.

This soil is poorly suited to most urban uses. The slope is the main limitation.

The capability subclass is VIe.

TaB2—Talbott silt loam, 2 to 5 percent slopes, eroded. This moderately deep, well drained, gently sloping soil is in broad, undulating areas in the inner part of the Central Basin. Slopes are smooth and convex. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 5 inches thick. It contains material from the subsoil because erosion has removed about one-half of the original surface layer. The subsoil is clay. In the upper part it is red. In the lower part it is strong brown and yellowish brown. Hard limestone bedrock is at a depth of about 30 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and small areas of a soil that is similar to the Talbott soil but is less than 20 inches deep over bedrock. Also included are a few areas that are less than 0.5 acre in size and have several rock outcrops. Included areas make up about 30 percent of the unit.

The Talbott soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer in recently limed areas and the layers directly above the bedrock are less acid. Permeability is moderately slow, and available water capacity is low or moderate. The shrink-swell potential is moderate. The rooting depth is limited by the plastic, clayey subsoil in addition to bedrock at a depth of 20 to 40 inches.

Most of the acreage is used for pasture or hay. Some areas are used for cultivated crops or woodland. This soil is well suited to pasture and hay and moderately well suited to cultivated crops. Yields of crops and pasture plants are limited by the rooting depth and the available water capacity.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Plant competition is moderate where seedlings are newly planted or naturally regenerating. Eastern redcedar invades old fields and pastures unless weed and brush control are applied. Suitable species include loblolly pine, shortleaf pine, Virginia pine, and eastern redcedar.

This soil is moderately suited to some urban uses and poorly suited to others. Suitability for buildings and roads is limited by the clayey subsoil, the shrink-swell potential, and the depth to bedrock. This soil is poorly suited to septic tank absorption fields because of the moderately slow permeability and the depth to bedrock.

The capability subclass is IIIe.

TaB3—Talbott silty clay loam, 2 to 5 percent slopes, severely eroded. This moderately deep, well drained, gently sloping soil is in broad, undulating areas in the inner part of the Central Basin. Slopes are smooth and convex. Small rills and shallow gullies are common. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is yellowish red and reddish brown silty clay loam about 5 inches thick. It is almost all subsoil material because erosion has removed most of the original surface layer. The subsoil is clay. In the upper part it is red. In the lower part it is strong brown and yellowish brown. Hard limestone bedrock is at a depth of about 26 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and small areas of a soil that is similar to the Talbott soil but is less than 20 inches deep over bedrock. Also included are a few areas that are less than 0.5 acre in size and have several rock outcrops. Included areas make up about 20 percent of the unit.

The Talbott soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer in recently limed areas and the layers directly above the bedrock are less acid. Permeability is moderately slow, and available water capacity is low. The shrink-swell potential is moderate. The rooting depth is limited by the clayey subsoil in addition to bedrock at a depth of 20 to 40 inches.

Most of the acreage is used for pasture or hay. Some areas are used for cultivated crops or woodland. This soil is moderately suited to pasture and hay and poorly suited to cultivated crops. Yields of crops and pasture plants are limited by the rooting depth and the available water capacity.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Seedling mortality and an equipment limitation are management concerns because of the clayey subsoil near the surface. Suitable species include Virginia pine and eastern redcedar.

This soil is poorly suited to most urban uses. Overcoming the depth to bedrock and the clayey, slowly permeable subsoil is difficult.

The capability subclass is IVe.

TaC2—Talbott silt loam, 5 to 12 percent slopes, eroded. This moderately deep, well drained, sloping soil is in broad, rolling areas in the inner part of the Central

Basin. Slopes are smooth and convex. Individual areas range from about 4 to 25 acres in size.

Typically, the surface layer is brown silt loam about 5 inches thick. It contains material from the subsoil because erosion has removed about one-half of the original surface layer. The subsoil is clay. In the upper part it is red. In the lower part it is strong and yellowish brown. Hard limestone bedrock is at a depth of about 30 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and small areas of a soil that is similar to the Talbott soil but is less than 20 inches deep over bedrock. Also included are a few areas that are less than 0.5 acre in size and have several rock outcrops. Included areas make up about 30 percent of the unit.

The Talbott soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer in recently limed areas and the layers directly above the bedrock are less acid. Permeability is moderately slow, and available water capacity is low or moderate. The shrink-swell potential is moderate. The rooting depth is limited by the plastic, clayey subsoil in addition to bedrock at a depth of 20 to 40 inches.

Most of the acreage is used for pasture or hay. A few areas are used for cultivated crops or woodland. This soil is moderately suited to pasture and hay and poorly suited to cultivated crops. Yields of crops and pasture plants are limited by the rooting depth and the available water capacity. If cultivated crops are grown, erosion is a severe hazard and intensive erosion-control measures are needed.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Plant competition is moderate where seedlings are newly planted or naturally regenerating. Suitable species include loblolly pine, shortleaf pine, Virginia pine, and eastern redcedar. Eastern redcedar invades old fields and pastures unless weed and brush control are applied.

This soil is moderately suited to some urban uses and poorly suited to others. Suitability for buildings and roads is limited by the clayey subsoil, the depth to bedrock, the shrink-swell potential, and the slope. This soil is poorly suited to septic tank absorption fields because of the moderately slow permeability and the depth to bedrock.

The capability subclass is IVe.

TaC3—Talbott silty clay loam, 5 to 12 percent slopes, severely eroded. This moderately steep, well drained, sloping soil is in broad, rolling areas in the inner part of the Central Basin. Slopes are smooth and convex. Small rills and shallow gullies are common. Individual areas range from about 4 to 75 acres in size.

Typically, the surface layer is yellowish red and reddish brown silty clay loam about 5 inches thick. It is almost all subsoil material because erosion has removed most of the original surface layer. The subsoil is clay. In the upper part it is red. In the lower part it is yellowish brown. Hard limestone bedrock is at a depth of about 26 inches.

Included with this soil in mapping are small areas of Bradyville soils, which are 40 to 60 inches deep over bedrock, and small areas of a soil that is similar to the Talbott soil but is less than 20 inches deep over bedrock. Also included are a few areas that are less than 0.5 acre in size and have several rock outcrops. Included areas make up about 20 percent of the unit.

The Talbott soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer in recently limed areas and the layers directly above the bedrock are less acid. Permeability is moderately slow, and available water capacity is low. The shrink-swell potential is moderate. The rooting depth is limited by the plastic, clayey subsoil in addition to bedrock at a depth of 20 to 40 inches.

Most of the acreage is used for pasture or hay. A few small areas are used for cultivated crops or woodland. This soil is moderately suited to pasture and hay and poorly suited to cultivated crops. Yields of crops and pasture plants are limited by the rooting depth and the available water capacity.

This soil is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Seedling mortality and an equipment limitation are management concerns because of the clayey subsoil near the surface. Suitable species include Virginia pine and eastern redcedar.

This soil is poorly suited to most urban uses. Overcoming the depth to bedrock and the clayey, slowly permeable subsoil is difficult.

The capability subclass is VIe.

TrC2—Talbott silt loam, 5 to 20 percent slopes, eroded, rocky. This moderately deep, well drained, rolling and hilly soil is in the inner part of the Central Basin. Slopes are dominantly 5 to 15 percent but range to 20 percent. Limestone outcrops are throughout the unit. They cover about 5 to 10 percent of the surface and protrude up to 3 feet above the surface. They are in scattered areas or consist of narrow ledges parallel to the slopes.

Typically, the surface layer is brown silt loam about 5 inches thick. It contains material from the subsoil because erosion has removed about one-half of the

Figure 15.—Permanent pasture in an area of Talbott silt loam, 5 to 20 percent slopes, eroded, rocky.

original surface layer. The subsoil is clay. In the upper part it is red. In the lower part it is strong brown and yellowish brown. Hard limestone bedrock is at a depth of about 30 inches.

Included with this soil in mapping are areas of Bradyville soils and small areas of a soil that is similar to the Talbott soil but is less than 20 inches deep over bedrock. Also included are a few small areas of Gladeville soils, areas that have up to 30 percent rock outcrop, and a few small areas that have a slope of more than 20 percent. Included areas make up about 25 percent of the unit.

The Talbott soil is low in natural fertility and organic matter content. Reaction generally is medium acid or strongly acid, but the surface layer in recently limed areas and the layers directly above the bedrock are less acid. Permeability is moderately slow, and available water capacity is low or moderate. The shrink-swell potential is moderate. The rooting depth is limited by the plastic clay subsoil in addition to bedrock at a depth of 20 to 40 inches.

Most areas are used as woodland or pasture (fig. 15). This soil is moderately suited to pasture, poorly suited to hay, and generally unsuited to cultivated crops because of the rock outcrops and low productivity. Although the rock outcrops interfere with clipping and other management practices, managing most areas for pasture is feasible.

The map unit is moderately suited to woodland. Productivity is limited by the rooting depth and the available water capacity. Plant competition is a management concern where seedlings are newly planted or naturally regenerating. The clayey subsoil near the surface and the rock outcrops result in a moderate equipment limitation. Suitable species include loblolly pine, shortleaf pine, Virginia pine, and eastern redcedar.

This soil is poorly suited to many urban uses because of the depth to bedrock, the rock outcrops, the moderately slow permeability, and low strength. These limitations can be minimized or overcome for some uses, such as building sites and roads, by careful planning and design. Overcoming the limitations is very difficult, however, on sites for septic tank absorption fields.

The capability subclass is VIs.

Tu—Tupelo silt loam. This deep, somewhat poorly drained, nearly level soil is on broad flats or in slight depressions on uplands and stream terraces. It is in the inner part of the Central Basin. Slopes range from 0 to 2 percent. Individual areas range from 5 to 40 acres in size.

Typically, the surface layer is brown silt loam about 10 inches thick. The subsoil, from a depth of 10 to 14 inches, is yellowish brown silty clay loam that has brownish mottles. From a depth of 14 to 28 inches, it is light olive brown clay that has brownish, yellowish, and grayish mottles. From a depth of 28 to 60 inches, it is light gray and gray clay that has mottles in shades of brown.

Included with this soil in mapping are small areas of poorly drained soils in slight depressions. Also included are small areas of the moderately well drained Egam and Lindell soils in drainageways. Included areas make up about 10 percent of the unit.

The Tupelo soil is low in natural fertility and organic matter content. It ranges from strongly acid to slightly acid. Permeability is slow, and available water capacity is high. The root zone is only moderately deep because of the clay subsoil. Runoff is slow, and some areas have a few inches of water on the surface for short periods.

Most of the acreage is used for pasture or cultivated crops. Where drained, this soil is well suited to cultivated crops, hay, and pasture. Drainage systems normally consist of open ditches.

This soil is moderately suited to woodland, but very few areas are wooded. The wetness results in a moderate equipment limitation and seedling mortality. Plant competition is severe where seedlings are newly planted. Suitable species include loblolly pine, American sycamore, and eastern cottonwood.

This soil is poorly suited to most urban uses. For many uses overcoming the wetness, the high shrink-swell potential, and the slow permeability is extremely difficult.

The capability subclass is IIw.

WaB2—Waynesboro loam, 2 to 5 percent slopes, eroded. This deep, well drained, gently sloping soil is mostly on broad ridgetops on high stream terraces and uplands. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is brown loam about 6 inches thick. It contains material from the subsoil because erosion has removed part of the original surface layer. The upper few inches of the subsoil is brown loam. Below this to a depth of about 65 inches, the subsoil is yellowish red and red clay loam and clay.

Included with this soil in mapping are small areas of Armour soils, which have a subsoil that is browner and less clayey than that of the Waynesboro soil. Also included are a few areas of a soil that contains rounded gravel, is less clayey in the subsoil than the Waynesboro soil, and has up to 50 percent gravel in the lower part of the subsoil and in the substratum. Included areas make up about 15 percent of the unit.

The Waynesboro soil is low in natural fertility and organic matter content. Reaction generally is strongly acid or very strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is well suited to all of the cultivated crops and hay and pasture plants commonly grown in the county. The hazard of erosion is moderate if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, shortleaf pine, black walnut, and loblolly pine.

This soil is well suited to most urban uses. The clayey subsoil, the moderate permeability, and low strength are moderate limitations affecting some uses. These limitations can be overcome by good design and careful installation.

The capability subclass is IIe.

WaC2—Waynesboro loam, 5 to 12 percent slopes, eroded. This deep, well drained, sloping soil is on convex ridgetops and side slopes on high terraces and uplands. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is brown loam about 6 inches thick. It contains material from the subsoil because erosion has removed part of the original surface layer. The upper few inches of the subsoil is brown loam. Below this to a depth of about 65 inches, the subsoil is yellowish red and red clay loam and clay.

Included with this soil in mapping are small areas of Armour soils, which have a subsoil that is browner and less clayey than that of the Waynesboro soil. Also included are a few areas of a soil that contains rounded gravel, is less clayey in the subsoil than the Waynesboro soil, and has up to 50 percent gravel in the lower part of the subsoil and in the substratum. Included areas make up about 15 percent of the unit.

The Waynesboro soil is low in natural fertility and organic matter content. Reaction generally is strongly acid or very strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for cultivated crops, hay, or pasture. This soil is moderately suited to cultivated crops and well suited to hay and pasture. The hazard of erosion is severe if cultivated crops are grown.

This soil is well suited to woodland. The only significant management concern is plant competition where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is well suited to most urban uses. The clayey subsoil, the moderate permeability, low strength, and the slope are moderate limitations affecting some uses. These limitations can be overcome by good design and careful installation.

The capability subclass is IIIe.

WaD2—Waynesboro loam, 12 to 20 percent slopes, eroded. This deep, well drained, moderately steep soil is on side slopes on high terraces and uplands. Individual areas range from about 4 to 100 acres in size.

Typically, the surface layer is brown loam about 5 inches thick. It contains material from the subsoil because erosion has removed part of the original surface layer. The upper few inches of the subsoil is brown loam. Below this to a depth of about 65 inches, the subsoil is yellowish red and red clay loam and clay.

Included with this soil in mapping are small areas of Armour soils, which have a subsoil that is browner and less clayey than that of the Waynesboro soil. Also included are a few areas of a soil that contains rounded gravel, is less clayey in the subsoil than the Waynesboro soil, and has up to 50 percent gravel in the lower part of the subsoil and in the substratum. Included areas make up about 15 percent of the unit.

The Waynesboro soil is low in natural fertility and organic matter content. Reaction generally is strongly acid or very strongly acid, but the surface layer is less acid in limed areas. Permeability is moderate, and available water capacity is high. The root zone is deep and can be easily penetrated by roots.

Nearly all areas have been cleared of trees. Most areas are used for pasture or hay. This soil is poorly suited to cultivated crops, moderately suited to hay, and well suited to pasture. The hazard of erosion is severe if cultivated crops are grown. The slope is a limitation affecting the equipment used for cultivated crops and hay.

This soil is well suited to woodland. The slope causes a moderate hazard of erosion and an equipment limitation. Plant competition is a management concern where seedlings are newly planted. Suitable species include yellow-poplar, black walnut, and loblolly pine.

This soil is poorly suited to many urban uses because of the slope. The clayey subsoil, the moderate permeability, and low strength also are moderate limitations affecting some uses. These limitations can be overcome for some uses by good design and careful installation.

The capability subclass is IVe.

Wo—Woodmont silt loam. This deep, somewhat poorly drained, nearly level soil is on broad upland flats and stream terraces. It has a slowly permeable fragipan in the subsoil. Individual areas range from 5 to 40 acres in size.

Typically, the surface layer is brown silt loam about 8 inches thick. The subsoil, from a depth of 8 to 20 inches, is light olive brown silt loam that has mottles in shades of brown, gray, and yellow. From a depth of 20 to 23 inches, it is pale brown silt loam. From a depth of 23 to 60 inches, it is a compact, slowly permeable fragipan of dominantly light olive brown silt loam or silty clay loam that has mottles in shades of brown and gray. Some layers in the fragipan are mottled and do not have a dominant color.

Included with this soil in mapping are small areas of a poorly drained soil that is dominantly gray throughout the subsoil. It is in the slightly lower areas. Also included are small areas of the moderately well drained Lindell soils along drainageways. Included areas make up about 10 percent of the unit.

The Woodmont soil is dominantly strongly acid, but it is strongly acid or medium acid in the fragipan and the surface layer is less acid where limed. Permeability is slow, and available water capacity is moderate. Runoff is slow. The root zone is moderately deep and can be easily penetrated above the fragipan by roots. Root growth is restricted in the fragipan. Runoff is slow.

Most of the acreage is used for pasture or cultivated crops. The soil is well suited to pasture and moderately suited to cultivated crops. Drainage ditches help remove excess water, allowing earlier planting and increasing yields.

This soil is well suited to woodland, but few areas are wooded. Seasonal wetness is a moderate limitation affecting harvesting. Plant competition should be controlled where seedlings are newly planted. Suitable species include yellow-poplar, loblolly pine, shortleaf pine, and sweetgum.

This soil is poorly suited to most urban uses. For many uses, overcoming the wetness, the slow permeability, and low strength is difficult.

The capability subclass is IIIw.

Prime Farmland

In this section, prime farmland is defined and the soils in Wilson 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. The loss of prime farmland to other uses results in costly and environmentally undesirable utilization of marginal land.

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 5 percent.

About 84,000 acres, or 23 percent of Wilson County, meets the soil requirements for prime farmland. Some of this area, however, has been developed for urban uses. Prime farmland is in scattered areas throughout the county. It is mostly used as cropland or pasture.

Table 5 lists the map units considered prime farmland in Wilson County. The location of each map unit is shown on the detailed soil maps at the back of this publication. The extent of each unit is given in table 4. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units." This list does not constitute a recommendation for a particular land use.

Some soils that have a high water table may qualify as prime farmland only in areas where this limitation has been overcome by drainage measures. If applicable, the need for these measures is indicated in parentheses after the map unit name. Onsite evaluation is necessary to determine if this limitation has been overcome by the corrective measures.

Use and Management of the Soils

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

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

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties *(SSA and ASA, 1966)*.

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 potential 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

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils 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.

Grassland is the major land use in Wilson County. About 169,500 acres, or 47 percent of the county, is used for pasture or hay. In 1985, tobacco was produced on 1,075 acres, soybeans on 2,200 acres, wheat on 4,500 acres, and corn on 7,000 acres. These four crops accounted for about 4 percent of the total land area in the county. A small acreage was used for other crops, including strawberries, tomatoes, and tree fruits. The county has the potential to become a larger producer of small fruits, vegetables, and tree fruits.

Erosion is the most important management problem in the county because of a large acreage of highly erodible soils. It is a major concern on more than 50 percent of the cropland in the county. Erosion is damaging in several ways. The productivity of soil is diminished as plant nutrients are lost, available water capacity is reduced, and germination is affected. Erosion also results in pollution of streams by sediments, plant nutrients, pesticides, and herbicides. Replacing plant nutrients and cleaning up streams are expensive and difficult. Deposition of infertile sediments onto productive bottom land is also a problem in some areas.

Conservation practices that slow surface runoff and increase infiltration of water are effective for controlling erosion. Practices that help control erosion include no-till farming, minimum tillage farming, crop residue management, cover crops, grassed waterways, contour farming, stripcropping, terraces and diversions, and sod-based crop rotations. Information concerning the design of conservation practices is available at the local office of the Natural Resources Conservation Service.

Most of the soils in the county are acid and have a low or medium content of plant nutrients. Commercial fertilizers and lime are needed for most crops to produce economically feasible yields. The use of fertilizers and lime should be based on the results of soil tests and on the nutrient requirements of the crop. The type of soil, desired yield, and cropping practices of the previous 3 to 5 years should also be considered. Information about soil tests and fertilizer applications can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Agricultural Extension Service.

Pasture and hayland make up a large part of the land area in the county and could become even more important as conservation awareness becomes more widespread. Pasture and hayland support cool-season and warm-season grasses and legumes. The main grasses in the county are tall fescue, bermudagrass, and orchardgrass. The most common legumes are white clover, red clover, alfalfa, annual lespedeza, and sericea lespedeza. Legumes should be included as part of the seed mixture when establishing pasture. They should be reintroduced to stands of perennial grass when they make up less than about 30 percent of the pasture.

The major management practices needed in areas used as pasture are applications of fertilizer and lime, weed control, rotational grazing, and occasional renovation. Fertilizer should be applied according to plant needs as indicated by plant growth, the desired level of production, and the results of soil tests. Weeds can be controlled in pastures by using herbicides and by mowing before the weeds reach maturity and produce seed. Weed control is easier on well-managed pastures than on overgrazed, poorly managed pastures.

Some annual grasses are used for supplemental grazing or for hay. Crosses of sudan and sorghum, pearl millets, and sudangrass make good summer pasture. Small grain and annual ryegrass provide good grazing in late fall and early spring.

Most of the hay harvested in the county is surplus growth from grass-legume pastures. Annual lespedeza, sericea lespedeza, red clover, alfalfa, and small grain also are used for hay. Management for hay is generally the same as for pasture, except that more fertilizer is needed. Hay should be cut at the stage of growth that provides the best quality feed and does not damage the stand. Cutting perennial hay crops too close causes premature loss of the stand.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations 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 table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for use as cropland *(USDA, 1961)*. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland 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. There are no class I, V, or VIII soils in Wilson County.

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

Class I soils have few limitations that restrict their use.

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

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

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

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

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

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

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

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

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

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

Woodland Management and Productivity

Joseph H. Paugh, forester, Natural Resources Conservation Service, assisted with this section.

About 121,000 acres, or 33 percent of Wilson County, is woodland. Nearly all of this woodland is privately owned. Oak-hickory is the most common forest type. It covers about 50,000 acres and is usually found on upland soils. The oak-pine forest type covers about 43,000 acres and typically grows on dry ridges and steep, south- and west-facing slopes. The remaining 28,000 acres of woodland is the eastern redcedar forest type. It occurs in pure stands and in mixed stands with upland hardwoods. The pure stands of redcedar typically are in areas of soils that are shallow over limestone or are intermingled with outcrops of limestone.

The average woodland growth in Wilson County is 30 cubic feet per acre per year. Potential average growth is 65 cubic feet per acre per year. The greatest growth potential typically is in areas on the lower third of north- and east-facing slopes. In these areas growth may reach 120 cubic feet per acre per year. Values of woodland include wildlife habitat, recreation, natural beauty, and watershed protection.

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

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

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, or 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 period 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.

Ratings of *windthrow hazard* indicate the likelihood that trees will be uprooted by the wind. A restricted rooting depth is the main reason for windthrow. The rooting depth can be restricted by a high water table, a fragipan, or bedrock or by a combination of such factors as wetness, texture, structure, and depth. The risk is *slight* if strong winds cause trees to break but do not uproot them; *moderate* if strong winds cause an occasional tree to be blown over and many trees to break; and *severe* if moderate or strong winds commonly blow trees over. Ratings of moderate or severe indicate that care is needed in thinning or that the stand should not be thinned at all. Special equipment may be needed to prevent damage to shallow root systems in partial cutting operations. A plan for the periodic removal of windthrown trees and the maintenance of a road and trail system may be needed.

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

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

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

The *volume* is the yield likely to be produced by the most important trees, expressed in cubic feet per acre per year.

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

Recreation

Joseph H. Paugh, forester, Natural Resources Conservation Service, assisted with this section.

Wilson County has potential for a wide variety of recreational activities. Recreational facilities for which the county has high potential include vacation cabins, riding stables, campgrounds, picnic areas, golf courses, and facilities for small game hunting and for fishing and other water sports. Facilities for which the county has medium potential include natural, scenic, and historic areas, vacation farms, shooting preserves, and areas for hunting big game and waterfowl.

The soils in Wilson County generally have fair characteristics for recreational activities. When recreational development is planned, attention should be given to such soil characteristics as depth, permeability, texture, slope, drainage, and areas of rock outcrop. Most problems caused by soil characteristics can be overcome by careful site selection and planning.

In table 8, the soils of the survey area are rated according to the limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

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

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

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. 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 has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes, stones, or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

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

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Gerald Montgomery, biologist, Natural Resources Conservation Service, assisted with this section.

Wilson County has a varied population of wildlife and fish. The abundance and distribution of any particular species depend on land use and the amount of water and kind of vegetation available. Species that prefer the openland conditions in areas of cropland, pasture, brushy fence rows, thickets, and scattered woodlots include cottontail rabbit, bobwhite quail, mourning dove, meadowlark, eastern bluebird, groundhog, and coyote. These species are most abundant in areas that have a diversity of vegetative conditions. Species that prefer the forest conditions in upland woodlots and bottom land tracts of hardwoods include white-tailed deer, gray squirrel, raccoon, and a variety of nongame birds. Shallow lakes and other wetlands provide breeding habitat for wood ducks and resting and feeding areas for other migratory waterfowl.

Waterfowl are most abundant in Wilson County along Old Hickory Lake. The wetlands associated with the lake are also important to furbearers, such as mink and muskrat, and to aquatic nongame birds. Most areas in the county could be improved for use as wildlife habitat by increasing the amount of available food, water, and cover for wildlife.

The streams, lakes, and ponds in the county support crappie, bream, largemouth bass, and catfish. Nongame species, such as gar, carp, buffalo, bowfin, and drum, also are abundant, especially in the lakes.

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

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

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

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

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

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, orchardgrass, clover, annual lespedeza, and alfalfa.

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

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

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

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

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

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

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

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

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

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

Building Site Development

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

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

Dwellings and *small commercial buildings* are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrinking and swelling, and organic layers can cause the movement of footings. Depth to a high water table, depth to bedrock or to a 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 bedrock, 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.

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

Sanitary Facilities

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

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, depth to a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

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

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments.

The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, depth to a high water table, depth to bedrock or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

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

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

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

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

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

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

Construction Materials

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

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

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

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, a low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet and have a water table at a depth of less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 12, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

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

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are 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 or stones, 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 or stones, have slopes of more than 15 percent, or have a seasonal high water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and releases a variety of plant nutrients as it decomposes.

Water Management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and for embankments, dikes, and levees. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

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

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

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

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

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

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

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

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. Low available water capacity, restricted rooting depth, low fertility, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

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

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

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

Engineering Index Properties

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

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

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, an appropriate modifier is added, for example, "channery." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(ASTM, 1993)* and the system adopted by the American Association of State Highway and Transportation Officials *(AASHTO, 1986)*.

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, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of 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 in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution are rounded to the nearest 5 percent. Thus, if the range of gradation extends a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

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

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They 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 ⅓-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of movement of water through the soil when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

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

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

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

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

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

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion. Losses are expressed in tons per acre per year. These estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

Soil and Water Features

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

Hydrologic soil groups are used to estimate runoff from precipitation. Soils are assigned to one of four groups. They are grouped according to the 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 high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

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

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

Frequency, duration, and probable dates of occurrence are estimated. Frequency 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). Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), and *long* (more than 7 days). Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

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

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

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

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(USDA, 1975)*. 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 17 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is 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 fine, mixed, 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. The Bradyville series is an example of fine, mixed, 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 location of the pedon, including the number of the atlas sheet on which the pedon is located, is also described. The atlas sheets are at the back of this publication. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" *(USDA, 1993)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(USDA, 1975)*. 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."

Agee Series

The Agee series consists of deep, poorly drained, nearly level soils that formed in clayey alluvium. These soils are on broad flats and along drainageways in limestone valleys. Slopes range from 0 to 2 percent.

The Agee soils are geographically associated with Capshaw, Egam, and Tupelo soils. Capshaw soils are on low terraces and have an ochric epipedon. Egam soils are on flood plains and are moderately well drained. Tupelo soils are in areas adjacent to the Agee soils, have an ochric epipedon, and are somewhat poorly drained.

Typical pedon of Agee silty clay loam, rarely flooded; 0.5 mile north of Lebanon Square on U.S. Highway 231 to Coles Ferry Pike, northwest 2 miles on Coles Ferry Pike to Hartman Drive, southwest on Hartman Drive to Alhambra Drive, west on Alhambra Drive to Carver Lane, north 0.5 mile on Carver Lane to a private drive, 300 yards southeast of a farm house (atlas sheet 14):

Ap—0 to 9 inches; very dark grayish brown (2.5Y 3/2) silty clay loam; many fine distinct olive brown (2.5Y 4/4) mottles; moderate medium subangular blocky and moderate medium granular structure; friable; many fine roots; many fine pores; common medium and fine manganese accumulations and concretions; slightly acid; abrupt wavy boundary.

A1—9 to 16 inches; very dark gray (10YR 3/1) silty clay; few fine distinct very dark gray (N 3/0) mottles; moderate medium subangular blocky structure; firm; many fine roots; many fine pores; shiny faces of peds; common medium and fine manganese accumulations and concretions; slightly acid; clear smooth boundary.

A2—16 to 21 inches; black (10YR 2/1) silty clay; few fine faint very dark gray and common fine prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; shiny faces of peds; common medium and fine manganese accumulations and concretions; slightly acid; clear smooth boundary.

Bg1—21 to 29 inches; grayish brown (2.5YR 5/2) clay; common medium prominent yellowish brown (10YR 5/8) and dark gray (10YR 4/1) mottles; weak medium prismatic structure parting to moderate medium angular blocky; very firm; few fine roots; few fine pores; shiny faces of peds; common medium and fine manganese accumulations and concretions; slightly acid; clear smooth boundary.

Bg2—29 to 53 inches; grayish brown (2.5Y 5/2) clay; common medium prominent yellowish brown (10YR 5/8) and dark gray (10YR 4/1) mottles; weak medium angular blocky structure; extremely firm; shiny faces of peds; common fine and medium manganese and iron accumulations and concretions; neutral; clear smooth boundary.

Cg—53 to 60 inches; gray (10YR 5/1) clay; few fine faint dark gray and common medium prominent yellowish brown (10YR 5/8) mottles; massive; extremely firm; common fine and medium manganese and iron accumulations and concretions; neutral.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is more than 60 inches. Reaction ranges from mildly alkaline to medium acid. The content of gravel ranges from 0 to 5 percent.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It has mottles in shades of gray or brown. It is silty clay loam or silty clay.

The Bg and Cg horizons have hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2, or they are neutral in hue. They have few to many higher chroma mottles. They are silty clay or clay.

Armour Series

The Armour series consists of deep, well drained, gently sloping to moderately steep soils that formed in old alluvium or in old alluvium and the underlying residuum that weathered from limestone. These soils are on terraces, foot slopes, and alluvial fans in the outer part of the Central Basin. Slopes range from 2 to 20 percent.

The Armour soils are geographically associated with Maury, Waynesboro, and Byler soils. Maury and Waynesboro soils generally are higher on the landscape than the Armour soils and are clayey in the control section. Byler soils are lower on the landscape than the Armour soils and have a fragipan about 2 feet below the surface.

Typical pedon of Armour silt loam, 2 to 5 percent slopes; west of Lebanon on Interstate 40 to Mt. Juliet exit, south on Mt. Juliet Road to Adams Road, west to John Hagers Road, west to a sharp curve, 100 yards east of the curve, 15 feet north of the road, 50 feet south of Interstate 40 (atlas sheet 23):

Ap—0 to 9 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine roots; many fine pores; medium acid; gradual smooth boundary.

BA—9 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; few fine faint yellowish brown mottles; weak medium granular structure; very friable; many fine roots; many fine pores; medium acid; gradual smooth boundary.

Bt1—14 to 26 inches; yellowish brown (10YR 5/6) silty clay loam; common fine faint dark yellowish brown (10YR 4/4) mottles; weak medium and fine subangular blocky structure; friable; many fine roots; many fine pores; common clay films in pores and on faces of peds; few fine black concretions; medium acid; gradual smooth boundary.

Bt2—26 to 36 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable and firm; many fine roots; many fine pores; many clay films on faces of peds; common fine black concretions; medium acid; gradual smooth boundary.

Bt3—36 to 47 inches; strong brown (7.5YR 5/6) silty clay loam; common fine distinct yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; firm; many fine roots; many fine pores; slightly brittle; many clay films on faces of peds; many black manganese stains; medium acid; gradual smooth boundary.

Bt4—47 to 62 inches; strong brown (7.5YR 4/6) silty clay loam; common fine faint strong brown (7.5YR 5/6) and few fine prominent light yellowish brown (10YR 6/4) mottles; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots; many fine pores; brittle in 30 to 40 percent of mass; common clay films on faces of peds; common black manganese stains; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is medium acid or strongly acid, except where the surface layer has been limed. In some pedons, the upper part of the solum has a few rounded quartz pebbles and the lower part has a few chert fragments.

The Ap horizon has hue of 10YR and value and chroma of 3. The BA horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. It generally is silty clay loam. In some pedons, however, it is silty clay in the lower part. In some pedons it is mottled with shades of brown.

Arrington Series

The Arrington series consists of deep, well drained, nearly level soils that formed in medium textured alluvium on flood plains. Slopes range from 0 to 2 percent.

The Arrington soils are geographically associated with Capshaw and Egam soils. Capshaw soils are on low terraces, have an ochric epipedon, and have a clayey subsoil that is mottled with gray in the lower part. Egam soils are in positions similar to the Arrington soils and have a clayey subsoil.

Typical pedon of Arrington silt loam, occasionally flooded; south of Bairds Mill, east 2.8 miles on Hebron Road from its intersection with U.S. Highway 231, north 0.8 mile on Baldy Fork Road, 100 feet east of the road (atlas sheet 42):

Ap—0 to 9 inches; dark brown (10YR 3/3) silt loam; moderate fine granular structure; very friable; many fine roots; common fine pores; neutral; abrupt smooth boundary.

A—9 to 32 inches; dark brown (10YR 3/3) silt loam; weak fine granular and subangular blocky structure; very friable; common fine roots; common fine pores; slightly acid; gradual smooth boundary.

Bw—32 to 50 inches; dark brown (10YR 3/3) silt loam; weak fine subangular blocky structure; friable; common fine roots; common fine pores; neutral; gradual smooth boundary.

C—50 to 62 inches; brown (10YR 4/3) silt loam; common fine distinct grayish brown (10YR 5/2) mottles; massive; friable; few fine roots; few fine pores; neutral.

The thickness of the solum ranges from about 40 to 60 inches. The mollic epipedon ranges from 24 to more than 50 inches in thickness. Reaction is neutral or slightly acid. The content of gravel ranges from 0 to 5 percent in the A and B horizons and from 0 to 15 percent in the C horizon.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. The Bw horizon has hue of 10YR and value and chroma of 3 or 4. In some pedons it has a few brownish mottles. The C horizon has hue of 10YR, value of 4, and chroma of 2 to 4. It has few or common mottles in shades of brown and gray. It is silt loam, silty clay loam, or gravelly loam.

Barfield Series

The Barfield series consists of shallow, well drained, sloping to moderately steep soils that formed in clayey material weathered from limestone. These soils are in the inner and outer parts of the Central Basin. They are less than 20 inches deep over limestone bedrock. Slopes range from 8 to 20 percent.

The Barfield soils are geographically associated with Talbott, Gladeville, and Mimosa soils. Talbott soils have an argillic horizon that has redder hues than those of the Barfield soils and are 20 to 40 inches deep over bedrock. Gladeville soils are less than 12 inches deep over limestone bedrock. Mimosa soils have an argillic horizon and are 40 to 60 inches deep over limestone bedrock.

Typical pedon of Barfield silty clay loam, in an area of Barfield-Rock outcrop complex, 8 to 20 percent slopes; 6.75 miles south of Lebanon Courthouse on U.S. Highway 231, west 0.25 mile to a trailer court, 300 feet northwest of an old abandoned house (atlas sheet 32):

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular and subangular blocky structure; friable; few medium and many fine roots; few flat limestone fragments; neutral; abrupt smooth boundary.

Bw1—5 to 9 inches; very dark grayish brown (10YR 3/2) silty clay; moderate medium subangular blocky structure; firm; many fine roots; few fine black concretions; about 5 percent flat limestone fragments; neutral; abrupt smooth boundary.

Bw2—9 to 12 inches; very dark grayish brown (10YR 3/2) clay; moderate medium angular and subangular blocky structure; firm; many fine roots; few fine black concretions; about 5 percent angular chert fragments; neutral; clear smooth boundary.

BC—12 to 16 inches; mottled olive brown (2.5Y 4/4), dark grayish brown (2.5Y 4/2), and light olive brown (2.5Y 5/6) clay; weak medium subangular blocky structure; firm; common fine roots; about 15 percent angular chert fragments; mildly alkaline.

R—16 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock are 10 to 20 inches. Reaction is slightly acid to mildly alkaline. The content of rock fragments ranges from 0 to 5 percent in the A horizon and from 3 to 15 percent in the BW, BC, and C horizons.

The A horizon has hue of 10YR and value and chroma of 2 or 3. It is silty clay loam, silty clay, or clay.

The Bw horizon has the same colors and textures as the A horizon. The BC or C horizon, if it occurs, has hue of 2.5Y or 10YR, value of 4 or 5, and chroma of 3 to 6, or it is mottled in shades of brown and does not have a dominant color. It is silty clay or clay.

Bewleyville Series

The Bewleyville series consists of deep, well drained, gently sloping and sloping soils that formed in a silty mantle 2.0 to 3.5 feet thick and in the underlying old alluvium or material weathered from limestone. These soils are on high stream terraces and uplands in the northern part of the county near the Cumberland River. Slopes range from 2 to 12 percent.

The Bewleyville soils are geographically associated with Waynesboro and Byler soils. Waynesboro soils generally are lower on the landscape than the Bewleyville soils and have a clayey control section. Byler soils are lower on the landscape than the Bewleyville soils and have a fragipan about 2 feet below the surface.

Typical pedon of Bewleyville silt loam, 2 to 5 percent slopes, eroded; west of Lebanon on Coles Ferry Pike to Cairo Bend Road, north 3.5 miles on Cairo Bend Road, 100 feet east of the road (atlas sheet 2):

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine roots; many fine pores; medium acid; gradual smooth boundary.

Bt1—10 to 30 inches; strong brown (7.5YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; many fine roots; many fine pores; common clay films on faces of peds; few fine black concretions; medium acid; gradual smooth boundary.

Bt2—30 to 40 inches; yellowish red (5YR 5/8) silty clay loam; few fine distinct yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable and firm; many fine roots; many fine pores; many clay films on faces of peds; common fine black concretions; medium acid; gradual smooth boundary.

2Bt3—40 to 45 inches; red (2.5YR 5/8) silty clay loam; common fine distinct yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; firm; common fine roots; many fine pores; many clay films on faces of peds; common black stains on faces of peds; strongly acid; gradual smooth boundary.

2Bt4—45 to 60 inches; red (2.5YR 5/6) clay loam; common medium distinct strong brown (7.5YR 5/6) and few fine prominent light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; firm; common fine roots; many fine pores; many clay films on faces of peds; common black stains on faces of peds; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction ranges from medium acid to very strongly acid in the A and Bt horizons and is strongly acid or very strongly acid in the 2Bt horizon. In some pedons, the upper part of the solum has a few rounded quartz pebbles and the lower part has 0 to 15 percent chert fragments.

The Ap horizon has hue of 10YR, value of 4, and chroma of 3 or 4. The Bt horizon has hue of 7.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8. The 2Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. It is clay loam, silty clay loam, or clay.

Bradyville Series

The Bradyville series consists of deep, well drained soils on uplands. These soils formed in residuum of limestone, or they formed in a thin, silty mantle and the underlying clayey residuum of limestone. They are 40 to 60 inches deep over limestone bedrock. They are in broad, undulating and rolling areas in the inner part of the Central Basin. Slopes range from 2 to 12 percent.

The Bradyville soils are geographically associated with Talbott, Gladeville, and Lomond soils. Talbott soils are 20 to 40 inches deep over bedrock and have a higher content of clay in the upper part of the B horizon than the Bradyville soils. Gladeville soils are less than 12 inches deep over bedrock. Lomond soils are more than 60 inches deep over bedrock and have a fine-silty control section.

Typical pedon of Bradyville silt loam, 2 to 5 percent slopes, eroded; 6.5 miles south of Lebanon on U.S. Highway 231 to Vine, east 1 mile on a gravel road to a power line, north 0.7 mile on a private road, 40 feet east of the road, 300 feet north of a cemetery (atlas sheet 42):

Ap—0 to 5 inches; reddish brown (5YR 4/4) silt loam; weak fine granular structure; friable; many fine roots; few fine pores; strongly acid; abrupt smooth boundary.

Bt1—5 to 11 inches; red (2.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; few fine pores; few clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—11 to 19 inches; red (2.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common clay films on faces of peds; common fine dark brown concretions; medium acid; gradual smooth boundary.

Bt3—19 to 32 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; few fine roots; many clay films on faces of peds; many fine dark brown concretions; about 2 percent fragments of chert ¼ to 1 inch across; strongly acid; gradual smooth boundary.

Bt4—32 to 47 inches; red (2.5YR 4/6) clay; moderate medium angular and subangular blocky structure; very firm; few fine roots; many clay films on faces of peds; common small dark brown concretions; about 3 percent fragments of chert ¼ to 1 inch across; medium acid; gradual smooth boundary.

BC—47 to 52 inches; reddish brown (2.5YR 4/4) clay; weak medium angular blocky structure; very firm; few clay films on faces of peds; few fine dark brown concretions; about 10 percent fragments of chert ¼ inch to 3 inches across; slightly acid; abrupt wavy boundary.

R—52 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock range from 40 to 60 inches. Reaction is medium acid or strongly acid throughout most of the profile but ranges to mildly alkaline in the subhorizon directly above the bedrock. The content of fragments of chert ranges from 0 to 5 percent in the upper part of the solum and from 0 to 15 percent in the lower part.

The Ap horizon has hue of 5YR, 7.5YR, or 10YR and value and chroma of 3 or 4. It generally is silt loam. In a few severely eroded areas, however, it is silty clay loam.

The Bt horizon has hue of 2.5R or 5YR, value of 4 or 5, and chroma of 4 to 6. In the upper 5 to 15 inches, it is silty clay loam that has 32 to 40 percent clay. Below this it is silty clay or clay.

The BC horizon has colors and textures similar to those in the Bt horizon. In some pedons it is mottled in shades of brown and red.

Byler Series

The Byler series consists of deep, moderately well drained, gently sloping and sloping soils that have a fragipan at a depth of about 2 feet. These soils formed in old alluvium and the underlying clayey material weathered from limestone. They are on foot slopes and stream terraces. Slopes range from 2 to 12 percent.

The Byler soils are geographically associated with Armour, Waynesboro, and Woodmont soils. Armour soils are well drained and do not have a fragipan. Waynesboro soils are well drained and have a clayey subsoil. Woodmont soils are somewhat poorly drained and have a fragipan about 2 feet below the surface.

Typical pedon of Byler silt loam, 2 to 5 percent slopes; 6.1 miles west of Lebanon on Interstate 40 to State Highway 109, north 6.75 miles on Highway 109, about 150 feet east of the highway (atlas sheet 7):

Ap1—0 to 5 inches; brown (10YR 4/3) silt loam; weak fine and medium granular structure; very friable; many fine and very fine roots; many very fine pores; neutral; abrupt smooth boundary.

Ap2—5 to 9 inches; brown (10YR 4/3) silt loam; common fine distinct yellowish brown (10YR 5/6) mottles; weak fine and medium granular structure; very friable; many fine and very fine roots; many very fine pores; neutral; clear smooth boundary.

BA—9 to 15 inches; yellowish brown (10YR 5/6) silt loam; common medium distinct reddish brown (5YR 4/3) mottles; weak medium subangular blocky structure; friable; common fine and very fine roots;

many very fine pores; medium acid; clear smooth boundary.

Bt—15 to 28 inches; yellowish brown (10YR 5/6) silty clay loam; few fine prominent reddish brown (5R 5/4) mottles; moderate medium subangular blocky structure; friable; common fine and very fine roots; many very fine pores; few clay films; few medium prominent reddish brown stains; strongly acid; clear wavy boundary.

Btx1—28 to 31 inches; brownish yellow (10YR 6/6) silty clay loam; few fine distinct pale brown (10YR 6/3) and many fine distinct light gray (10YR 7/2) mottles; moderate medium prismatic structure parting to weak medium subangular blocky; firm; few fine roots between prisms; common fine pores; few clay films on faces of peds; few fine prominent reddish brown iron stains; strongly acid; clear smooth boundary.

Btx2—31 to 41 inches; yellowish brown (10YR 5/6) silty clay loam; many medium distinct light gray (10YR 7/2) and very pale brown (10YR 7/3) mottles; moderate coarse and very coarse prismatic structure parting to weak medium subangular blocky; very firm; brittle; few fine roots; common fine pores; few clay films on faces of prisms and secondary peds; many medium prominent reddish brown iron stains; strongly acid; clear wavy boundary.

2Bt—41 to 62 inches; yellowish brown (10YR 5/8) clay; common fine distinct light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) mottles; moderate medium angular blocky structure; very firm; few fine roots; few clay films on faces of peds; many medium prominent reddish brown iron stains; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Depth to clayey residuum ranges from 40 to 60 inches. Reaction is medium acid or strongly acid, except where the surface layer has been limed. These soils have few or no rock fragments.

The A horizon has hue of 10YR, value of 4, and chroma of 3 or 4.

The BA and Bt horizons have hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. The Bt horizon is silt loam or silty clay loam. The BA and Bt horizons have few to many mottles in shades of brown. In some pedons they have a few gray mottles in the lower 2 or 3 inches.

The Btx horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 6. It has mottles in shades of gray and brown. It is silt loam or silty clay loam.

The 2Bt horizon generally has colors similar to those in the Btx horizon. In some pedons, however, it is mottled and does not have a dominant matrix color. It is silty clay or clay.

Capshaw Series

The Capshaw series consists of deep, moderately well drained soils. These soils formed in old alluvium, or they formed in a thin mantle of alluvium and the underlying clayey material weathered from limestone. They are on broad upland flats and stream terraces in the inner part of the Central Basin. Slopes range from 2 to 6 percent.

The Capshaw soils are geographically associated with Talbott, Bradyville, Agee, and Tupelo soils. Talbott and Bradyville soils are on uplands adjacent to the Capshaw soils and do not have gray mottles in the B horizon. Agee soils have a dark surface and are poorly drained. Tupelo soils are somewhat poorly drained.

Typical pedon of Capshaw silt loam, 2 to 6 percent slopes; 6.5 miles west of Lebanon on U.S. Highway 70, north 6.1 miles on Cairo Bend Road, 100 feet west of the road (atlas sheet 13):

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine roots; many fine black concretions; neutral; clear smooth boundary.

Bt1—7 to 12 inches; yellowish brown (10YR 5/8) silty clay loam; brown (10YR 4/3) silt loam in old root channels; weak fine and medium subangular blocky structure; friable; many fine roots; few clay films on faces of peds; many fine black concretions; medium acid; gradual smooth boundary.

Bt2—12 to 20 inches; yellowish brown (10YR 5/8) silty clay; few fine distinct brown (10YR 5/3) mottles; moderate medium subangular and angular blocky structure; firm; common fine roots; common clay films on faces of peds; many fine black concretions; medium acid; gradual wavy boundary.

Bt3—20 to 32 inches; yellowish brown (10YR 5/8) clay; common medium prominent light olive brown (2.5Y 5/4) and few fine prominent grayish brown (10YR 5/2) mottles; moderate medium angular blocky structure; firm; few fine roots; many clay films on faces of peds; many fine and medium black concretions; medium acid; gradual wavy boundary.

Bt4—32 to 42 inches; yellowish brown (10YR 5/8) clay; common medium prominent grayish brown (2.5Y 5/2), olive yellow (2.5Y 6/6), and light olive brown (2.5Y 4/4) mottles; weak medium and coarse angular blocky structure; very firm; few clay films on faces of peds; many fine and medium black concretions; medium acid; gradual wavy boundary.

C—42 to 50 inches; mottled light brownish gray (2.5Y 6/2), olive yellow (2.5Y 6/8), and strong brown

(7.5YR 5/8) clay; massive; very firm; many fine and medium black concretions; medium acid.

R—50 inches; hard limestone bedrock.

The thickness of the solum ranges from 40 to 50 inches. The depth to bedrock ranges from 48 to 60 inches. Reaction is dominantly medium acid or strongly acid, except where the surface layer has been limed. The content of fragments ranges from 0 to 10 percent in each horizon.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The Bt horizon has hue of 7.5YR, 10YR, or 2.5Y, value of 5, and chroma of 4 to 8. It is mottled with shades of brown and yellow throughout. It has gray mottles below the upper 10 inches. It is silty clay loam, silty clay, or clay.

The C horizon generally is mottled in shades of brown, yellow, and gray and does not have a dominant color. In some pedons, however, it is dominantly gray and has mottles in shades of brown and yellow. It is dominantly clay. In some pedons, however, it is silty clay loam or clay loam.

Dellrose Series

The Dellrose series consists of deep, well drained, moderately steep and steep soils that formed in medium textured, cherty colluvium. These soils are in coves and on the middle and lower parts of hillsides leading from the Highland Rim down to the Central Basin. Slopes range from 12 to 50 percent.

The Dellrose soils are geographically associated with Hawthorne and Mimosa soils. Hawthorne soils are higher on the slopes than the Dellrose soils, contain more chert, and are less than 40 inches deep over rippable bedrock. Mimosa soils are lower on the slopes than the Dellrose soils or are on adjacent hillsides, have a Bt horizon of clay, and are 40 to 60 inches deep over bedrock.

Typical pedon of Dellrose cherty silt loam, 30 to 50 percent slopes; 12 miles east of Lebanon on U.S. Highway 70 to Watertown, southwest 3 miles to Griffin Cemetery, north 0.5 mile on a private road to a radio tower on Mt. Defiance, 10 feet from the roadbank on the right side of the road (atlas sheet 39):

A—0 to 13 inches; dark brown (10YR 3/3) cherty silt loam; weak fine granular structure; very friable; many fine roots; common fine pores; about 20 percent chert fragments; strongly acid; clear smooth boundary.

BA—13 to 32 inches; brown (7.5YR 4/4) cherty silt loam; moderate medium and fine subangular blocky structure; friable; few medium and common fine roots; few fine pores; about 25 percent chert fragments; strongly acid; gradual smooth boundary.

Bt1—32 to 48 inches; strong brown (7.5YR 4/6) cherty silty clay loam; moderate medium subangular blocky structure; friable; few medium and common fine roots; few thin clay films on faces of peds; about 25 percent chert fragments; strongly acid; gradual smooth boundary.

Bt2—48 to 68 inches; strong brown (7.5YR 4/6) cherty silty clay loam; few fine faint yellowish brown mottles; moderate medium subangular blocky structure; friable; few fine roots; few fine pores; common clay films on faces of peds; about 30 percent chert fragments; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. The coarse fragments include angular chert and shale fragments ½ inch to 3 inches across. The content of coarse fragments in each horizon ranges from 5 to about 35 percent. Reaction ranges from medium acid to very strongly acid.

The A horizon has hue of 10YR or 7.5YR, value of 3, and chroma of 2 or 3. The BA and Bt horizons have hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. The Bt horizon is cherty silt loam or cherty silty clay loam.

Dowellton Series

The Dowellton series consists of deep, poorly drained soils on low stream terraces and broad upland flats. These soils formed in old, clayey alluvium or in residuum, or they formed in alluvium and the underlying clayey residuum. Slopes range from 1 to 6 percent.

The Dowellton soils are geographically associated with Capshaw, Inman, and Hampshire soils. Capshaw soils are on low terraces and are moderately well drained. Hampshire and Inman soils are on uplands and are well drained. Also, Inman soils are moderately deep and contain many flagstones. Hampshire soils are 40 to 60 inches deep over rippable bedrock.

Typical pedon of Dowellton silt loam, 1 to 6 percent slopes; south of Lebanon on Cainesville Road, past Doaks Crossroads, west 1.8 miles on Burnthouse Road, 15 feet north of the road (atlas sheet 38):

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; very friable; many fine and common medium roots; few fine pores; few fine black concretions; slightly acid; abrupt smooth boundary.

AB—5 to 10 inches; dark grayish brown (10YR 4/2) silty clay loam; few fine distinct light brownish gray (10YR 6/2) and common medium distinct pale brown (10YR 6/3) mottles; moderate medium granular and subangular blocky structure; friable; common fine and few medium roots; few fine pores; few fine black concretions; slightly acid; abrupt smooth boundary.

Btg1—10 to 15 inches; gray (10YR 6/1) clay; many medium prominent red (10R 4/8) and common fine distinct grayish brown (10YR 5/2) mottles; moderate medium angular blocky structure; firm; common medium and few fine roots; few fine pores; slightly acid; abrupt wavy boundary.

Btg2—15 to 28 inches; light gray (10YR 7/1) clay; many medium prominent red (10R 4/8) mottles; moderate medium and coarse angular blocky structure; very firm; few coarse and common fine roots; common clay films on faces of peds; slightly acid; abrupt wavy boundary.

Btg3—28 to 36 inches; light gray (10YR 7/1) clay; many medium prominent brownish yellow (10YR 6/6) mottles; weak coarse angular blocky structure; very firm; common fine and medium roots; few clay films on faces of peds; slightly acid; abrupt wavy boundary.

Btg4—36 to 47 inches; light gray (10YR 7/1) clay; many medium distinct very pale brown (10YR 8/4) mottles; weak coarse angular blocky structure; very firm; few fine and medium roots; few clay films on faces of peds; slightly acid; abrupt wavy boundary.

Cg—47 to 50 inches; light gray (10YR 7/1) clay; many medium prominent brownish yellow (10YR 6/8) and very pale brown (10YR 8/4) mottles; massive; very firm; neutral; abrupt wavy boundary.

R—50 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock are 40 to 60 inches. Reaction ranges from medium acid to neutral in the upper part of the solum and from medium acid to mildly alkaline in the lower part.

The A and AB horizons have hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or less. They are silt loam or silty clay loam.

The Btg and Cg horizons have hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 or less. They have mottles in shades of brown, red, and yellow.

Eagleville Series

The Eagleville series consists of moderately deep, somewhat poorly drained soils. These soils formed in clayey alluvium underlain by limestone bedrock. They are on flood plains and in drainageways. Slopes range from 0 to 2 percent.

The Eagleville soils are geographically associated with Gladeville, Egam, and Talbott soils. Gladeville soils are well drained, very shallow over bedrock, and are on uplands adjacent to the Eagleville soils. Egam soils are on flood plains, are moderately well drained, and are more than 40 inches deep over bedrock. Talbott soils are on uplands adjacent to the Eagleville soils and have a reddish subsoil of clay.

Typical pedon of Eagleville silty clay loam, occasionally flooded; 17.5 miles south of Lebanon on U.S. Highway 231, along a drainageway on the west side of the road (atlas sheet 42):

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate medium granular structure; very friable; many fine roots; many fine pores; few fine black concretions; slightly acid; clear smooth boundary.

A—9 to 13 inches; very dark brown (10YR 2/2) silty clay loam; common fine faint very dark gray (10YR 3/1) mottles; moderate medium granular structure; friable; many fine roots; many fine pores; few black concretions; slightly acid; clear smooth boundary.

Bg1—13 to 18 inches; dark grayish brown (2.5Y 4/2) clay; common medium distinct olive brown (2.5Y 4/4) mottles; strong fine and medium angular blocky structure; very firm; many fine roots; many fine pores; many fine reddish brown concretions; mildly alkaline; clear smooth boundary.

Bg2—18 to 22 inches; dark grayish brown (2.5Y 4/2) clay; many medium distinct olive brown (2.5Y 4/4) mottles; strong fine and medium angular blocky structure; very firm; few fine roots; common fine pores; many fine reddish brown concretions; mildly alkaline; clear smooth boundary.

Bg3—22 to 26 inches; olive gray (5Y 4/2) clay; many medium distinct light olive brown (2.5Y 5/4) mottles; moderate medium subangular blocky structure; extremely firm; few fine roots; few fine pores; many fine reddish brown concretions; mildly alkaline; clear smooth boundary.

2Cg—26 to 31 inches; olive gray (5Y 5/2) clay; common medium prominent light brownish gray (10YR 6/2) and olive brown (2.5Y 4/4) mottles; massive; about 10 percent fragments of limestone less than 3 inches across; mildly alkaline.

2R—31 inches; hard limestone bedrock.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Reaction is slightly acid to mildly alkaline. The content of rock fragments ranges from 0 to 5 percent in the A and B horizons and from 0 to 15 percent in the C horizon.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or less. The texture is dominantly silty clay loam but includes silt loam.

The Bg and 2Cg horizons have hue of 10YR, 2.5Y, or 5Y, value of 4 or 5, and chroma of 2 or less. They have higher chroma mottles. The texture is dominantly silty clay or clay but includes silty clay loam.

Egam Series

The Egam series consists of deep, moderately well drained, nearly level soils. These soils formed in clayey alluvium on flood plains and in small drainageways. Slopes range from 0 to 2 percent.

The Egam soils are geographically associated with Arrington, Agee, and Eagleville soils. Arrington soils are fine-silty. Agee soils have lower chroma in the upper part than the Egam soils and are poorly drained. Eagleville soils are somewhat poorly drained and are 20 to 40 inches deep over bedrock.

Typical pedon of Egam silty clay loam, occasionally flooded; 0.75 mile west of Lebanon Courthouse on U.S. Highway 70 bypass, 200 feet west of an old sewage treatment plant (atlas sheet 20):

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silty clay loam; moderate fine granular structure; friable; many fine roots; many fine black concretions; slightly acid; clear smooth boundary.

A—8 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam; strong medium granular structure; friable; many medium and fine roots; many fine black concretions; medium acid; gradual smooth boundary.

Bw1—14 to 31 inches; very dark grayish brown (10YR 3/2) silty clay; few fine faint dark brown mottles; moderate medium angular blocky structure; firm; many fine roots; common fine black and common fine and medium reddish brown concretions; slightly acid; gradual smooth boundary.

Bw2—31 to 51 inches; very dark grayish brown (10YR 3/2) silty clay; few fine faint dark brown and common fine distinct yellowish brown (10YR 5/6) mottles; moderate medium angular blocky structure; firm; few fine roots; many medium and fine reddish brown concretions; slightly acid; gradual smooth boundary.

Bw3—51 to 62 inches; yellowish brown (10YR 5/6) clay; many medium distinct dark grayish brown (10YR 4/2) and dark yellowish brown (10YR 4/6) mottles; moderate medium angular blocky structure; firm; many medium and fine reddish brown concretions; slightly acid.

The thickness of the solum is more than 40 inches. The depth to bedrock is 60 inches or more. Reaction is neutral to medium acid. The content of gravel ranges from 0 to 5 percent in all horizons. The thickness of the mollic epipedon ranges from 24 to 55 inches.

The A horizon has hue of 10YR and value and chroma of 2 or 3. The texture is dominantly silty clay loam but includes silt loam.

In most pedons, the upper part of the Bw horizon has colors similar to those in the A horizon and is part of the mollic epipedon. Below the mollic material to a depth of 50 inches, the Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 to 6. Below a depth of 50 inches, it has value of 4 to 6 and chroma of 1 to 6. It has mottles in shades of brown and gray. It is silty clay loam, silty clay, or clay.

Some pedons have a C horizon, which has colors and textures similar to those in the lower part of the Bw horizon.

Gladeville Series

The Gladeville series consists of very shallow, well drained soils that formed in clayey material weathered from limestone. These soils are less than 12 inches deep over limestone bedrock. They are in broad, undulating and rolling areas in the inner part of the Central Basin. Slopes range from 2 to 15 percent.

The Gladeville soils are geographically associated with Talbott, Bradyville, and Barfield soils. Talbott soils generally are on the slightly higher slopes, have a reddish subsoil of clay, and are 20 to 40 inches deep over bedrock. Bradyville soils have a reddish, clayey subsoil and are 40 to 60 inches deep over bedrock. Barfield soils are 10 to 20 inches deep over bedrock.

Typical pedon of Gladeville flaggy silty clay loam, in an area of Gladeville-Rock outcrop complex, 2 to 15 percent slopes; 2 miles north of the Rutherford County line on U.S. Highway 231, east 0.6 mile on a gravel road to a sharp left curve, 150 feet east of the road (atlas sheet 42):

Oi—½ inch to 0; slightly decomposed leaves and twigs.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) flaggy silty clay loam; moderate medium granular structure; friable; many fine roots; about 30 percent thin, flat fragments of limestone 1 to 10 inches across; neutral; gradual smooth boundary.

A2—4 to 7 inches; dark brown (10YR 3/3) very flaggy silty clay loam; moderate medium granular structure; friable; many fine and medium roots; about 40 percent thin, flat fragments of limestone 1 to 10 inches across; mildly alkaline; abrupt smooth boundary.

C—7 to 9 inches; brown (7.5YR 4/4) very flaggy clay; massive; some weak blocky material; firm; common medium and fine roots; about 55 percent thin, flat fragments of limestone 3 to 12 inches across; moderately alkaline; abrupt wavy boundary.

R—9 inches; hard, thinly bedded limestone bedrock.

The thickness of the solum and the depth to bedrock range from 3 to 12 inches. Reaction ranges from neutral to moderately alkaline. The content of limestone fragments averages 35 to 65 percent but is as little as 25 percent in some subhorizons. The fragments are thin and range from about 3 to 12 inches across. Some pedons contain free carbonates in addition to the limestone fragments.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3. It is silty clay loam or clay in the fine-earth fraction.

The C horizon has hue of 7.5YR or 10YR, value of 4, and chroma of 3 or 4. It is silty clay loam or clay in the fine-earth fraction.

Hampshire Series

The Hampshire series consists of deep, well drained, gently sloping to moderately steep soils. These soils formed in clayey residuum that weathered from interbedded limestone and shale and in the underlying residuum of interbedded siltstone, sandstone, and limestone. These soils are on uplands in the outer part of the Central Basin. Slopes range from 2 to 20 percent.

The Hampshire soils are geographically associated with Stiversville, Maury, and Inman soils. Stiversville soils are fine-loamy. Maury soils have hue of 5YR or redder in the subsoil. Inman soils have rippable bedrock at a depth of 20 to 40 inches and are flaggy.

Typical pedon of Hampshire silt loam, 5 to 12 percent slopes, eroded; 2.9 miles east of Lebanon on Blue Bird Road to an underpass, east 0.5 mile on Bethany Road, 15 feet north on the left side of the road (atlas sheet 21):

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many medium and fine roots; many fine pores; medium acid; clear wavy boundary.

Bt1—6 to 13 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium and fine subangular blocky structure; friable; many fine roots; many fine pores; few fine black concretions; few clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—13 to 31 inches; strong brown (7.5YR 5/6) clay; common fine prominent yellowish red (5YR 5/8) mottles; moderate medium and fine subangular blocky structure; firm; common fine roots; few fine pores; few fine black concretions; common clay films on faces of peds; strongly acid; clear wavy boundary.

Bt3—31 to 40 inches; strong brown (7.5YR 4/6) clay; many fine distinct strong brown (7.5YR 5/8) mottles; moderate medium and fine subangular blocky structure; firm; few fine roots; few fine pores; common clay films on faces of peds; strongly acid; clear wavy boundary.

2C—40 to 50 inches; strong brown (7.5YR 5/6) very channery loam; many medium faint strong brown (7.5YR 4/6) mottles; massive; friable; about 60 percent soft and hard fragments of weathered siltstone and limestone; strongly acid; gradual smooth boundary.

2Cr—50 to 65 inches; rippable bedrock of interbedded siltstone, sandstone, and limestone.

The thickness of the solum ranges from 30 to 50 inches. The depth to rippable bedrock ranges from 40 to 60 inches. Reaction is medium acid or strongly acid, except where the surface layer has been limed. The content of phosphorus is medium or high. The content of rock fragments ranges from 0 to 5 percent in the A horizon, from 0 to 15 percent in the Bt horizon, and from 35 to 65 percent in the 2C horizon.

Generally, the Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 to 6 and is silt loam. In severely eroded areas, however, it has chroma of 6 and is silty clay loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 6 to 8. In some pedons it is mottled with shades of brown and yellow in the middle and lower parts. It is clay, silty clay, or silty clay loam. Some pedons have a 2Bt horizon, which has colors similar to those in the Bt horizon. It is clay loam, silty clay loam, or clay.

The 2C horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It has mottles in shades of brown, gray, and yellow. It is loam, clay loam, or silty clay loam in the fine-earth fraction.

Hawthorne Series

The Hawthorne series consists of moderately deep, somewhat excessively drained, sloping to very steep soils that formed in residuum of interbedded siltstone and cherty limestone. These soils are on narrow ridges and the upper part of hillsides on the Highland Rim. Slopes range from 5 to 60 percent.

The Hawthorne soils are geographically associated with Dellrose and Mimosa soils. Dellrose soils formed in colluvium lower on the landscape than the Hawthorne soils. They are deeper and contain less chert than the Hawthorne soils. Mimosa soils are 40 to 60 inches deep over bedrock and have a clayey subsoil.

Typical pedon of Hawthorne cherty silt loam, 30 to 60 percent slopes; 12 miles east of Lebanon on U.S. Highway 70 to Watertown, southwest 3 miles to Griffin Cemetery, north 0.6 mile on a private road leading to a radio tower on Mt. Defiance, 15 feet from the roadbank on the left side of the road (atlas sheet 39):

Oi—1 inch to 0; slightly decomposed leaves and twigs.

A—0 to 2 inches; dark grayish brown (10YR 4/2) cherty silt loam; moderate medium granular structure; very friable; many fine roots; common fine and medium pores; about 25 percent angular chert fragments; strongly acid; abrupt smooth boundary.

E—2 to 8 inches; brown (10YR 5/3) cherty silt loam; moderate fine granular structure; very friable; many fine roots; common fine and medium pores; about 30 percent angular chert fragments; strongly acid; clear smooth boundary.

Bw1—8 to 15 inches; yellowish brown (10YR 5/4) very channery silt loam; weak fine subangular blocky structure; very friable; many fine and medium roots; common fine and medium pores; about 40 percent weathered siltstone and angular chert fragments; strongly acid; abrupt smooth boundary.

Bw2—15 to 28 inches; yellowish brown (10YR 5/6) very channery silt loam; weak fine subangular blocky structure; friable; few medium and common fine roots; common fine and medium pores; about 45 percent fragments of soft, weathered siltstone and angular chert; strongly acid; clear smooth boundary.

Cr—28 to 60 inches; thinly bedded, soft, fractured siltstone interbedded with layers of hard, fractured chert and thin seams of yellowish brown (10YR 5/6) silty clay loam.

The thickness of the solum ranges from about 15 to 35 inches. The depth to rippable bedrock ranges from 20 to 40 inches. Reaction is strongly acid or very strongly acid. The content of hard and soft rock fragments ranges from 20 to 35 percent in the A and E horizons and from 35 to 60 percent in the B and C horizons.

The A horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3. The E horizon has hue of 10YR, value of 5 or 6, and chroma of 3 or 4.

The Bw horizon has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. Some pedons or parts of some pedons have a thin Bt horizon, which has colors similar to those in the Bw horizon. The texture is dominantly silt loam in the fine-earth fraction but ranges to silty clay loam. Some pedons have a C horizon, which has colors and textures similar to those in the Bw horizon.

The Cr horizon is highly weathered siltstone interbedded with hard angular chert. It generally is rippable and can be dug with a spade. In a few places, however, it has pieces of hard rock that are several feet across.

Hicks Series

The Hicks series consists of deep, well drained, gently sloping and sloping soils that formed in a mantle of loess and the underlying residuum of interbedded siltstone, sandstone, and limestone. These soils are on ridgetops and the upper part of hillsides in the outer part of the Central Basin. Slopes range from 2 to 12 percent.

The Hicks soils are geographically associated with Stiversville, Inman, and Hampshire soils. Stiversville soils contain more rock fragments than the Hicks soils and are fine-loamy. Inman and Hampshire soils have a clayey control section. Also, Inman soils are less than 40 inches over rippable bedrock.

Typical pedon of Hicks silt loam, 2 to 5 percent slopes; 5.5 miles west of Lebanon on U.S. Highway 70, south 1.5 miles on Palmer Road, 300 feet east of the road (atlas sheet 19):

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak medium granular structure; very friable; many medium and fine roots; many fine pores; medium acid; abrupt smooth boundary.

BA—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; common medium faint dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; very friable; many medium and fine roots; many fine pores; medium acid; gradual smooth boundary.

Bt1—12 to 19 inches; strong brown (7.5YR 5/6) silt loam; few fine prominent dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; friable; common fine roots; many fine pores; few faint clay films on faces of peds; medium acid; gradual smooth boundary.

Bt2—19 to 25 inches; strong brown (7.5YR 5/8) silty clay loam; few fine prominent dark yellowish brown (10YR 4/4) mottles; moderate medium subangular blocky structure; friable; common fine roots; many fine pores; common distinct clay films on faces of peds; medium acid; gradual smooth boundary.

2Bt3—25 to 38 inches; strong brown (7.5YR 5/8) silty clay loam; common medium prominent yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable and firm; few clay films on faces of peds; few fine roots; many fine pores; about 10 percent soft fragments of siltstone 0.5 inch to 3 inches across; common fine and medium black concretions; strongly acid; abrupt wavy boundary.

2BC—38 to 45 inches; mottled strong brown (7.5YR 5/8), yellowish brown (10YR 5/4), and dark yellowish brown (10YR 4/4) clay loam; weak medium subangular blocky structure; friable; few fine pores; about 25 percent fragments of soft siltstone and sandstone 0.5 inch to 3 inches across; few fine black concretions; strongly acid; abrupt wavy boundary.

2Cr—45 to 60 inches; soft, layered, strong brown and yellowish brown siltstone and fine grained sandstone.

The thickness of the solum and the depth to bedrock are 40 to 60 inches. Reaction is medium acid or strongly acid. The content of phosphorus is medium or high. The content of soft and hard rock fragments ranges from 0 to 5 percent in the A, BA, and Bt horizons, from 5 to 15 percent in the 2Bt horizon, and from 25 to 60 percent in the 2BC and 2C horizons.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The BA and Bt horizons have hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. In some pedons they have few or common mottles in shades of brown. The Bt horizon is silt loam or silty clay loam. The 2Bt horizon has colors similar to those in the Bt horizon. It generally is clay loam or silty clay loam. In some pedons, however, it has thin subhorizons of clay.

The 2BC and 2C horizons, if they occur, have hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. They have mottles in shades of brown and yellow and in some pedons are mottled without a dominant color. They are loam, silt loam, silty clay loam, or clay loam.

The Cr horizon is interbedded siltstone, sandstone, and limestone. It is rippable and generally can be dug with a spade but has a few hard strata.

Holston Series

The Holston series consists of deep, well drained, gently sloping to sloping soils that formed in thick deposits of old alluvium. These soils are on high stream terraces near the Cumberland River. Slopes range from 2 to 8 percent.

The Holston soils are geographically associated with Waynesboro and Armour soils. Waynesboro soils are higher on the landscape than the Holston soils and are clayey in the control section. Armour soils are on lower terraces than the Holston soils and are fine-silty.

Typical pedon of Holston loam, 2 to 8 percent slopes, eroded; 0.7 mile south of the Cumberland River on State Highway 109, west 0.2 mile on Kelly Court, 100 feet north of the road (atlas sheet 1):

Ap—0 to 6 inches; brown (10YR 4/3) loam; weak fine granular structure; very friable; many medium and fine roots; many fine pores; medium acid; clear smooth boundary.

Bt1—6 to 13 inches; strong brown (7.5YR 5/8) clay loam; common fine prominent yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; very friable; many medium and fine roots; many fine pores; few clay films in pores; medium acid; gradual smooth boundary.

Bt2—13 to 19 inches; strong brown (7.5YR 5/8) clay loam; few fine prominent yellowish brown (10YR 5/4) mottles; moderate medium and fine subangular blocky structure; friable; many fine roots; many fine pores; common clay films on faces of peds; few fine black concretions; strongly acid; gradual smooth boundary.

Bt3—19 to 30 inches; strong brown (7.5YR 5/8) clay loam; few fine prominent red (2.5YR 4/8) and very pale brown (10YR 7/3) mottles; moderate medium subangular blocky structure; friable; many fine roots; many fine pores; common clay films on faces of peds; few fine black concretions; very strongly acid; gradual smooth boundary.

Bt4—30 to 38 inches; strong brown (7.5YR 5/8) clay loam; few fine distinct yellowish red (5YR 5/8) and common fine prominent light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; common fine roots; many fine pores; common clay films on faces of peds; few fine black concretions; very strongly acid; gradual smooth boundary.

Bt5—38 to 48 inches; strong brown (7.5YR 5/8) sandy clay loam; common medium prominent yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; common clay films on faces of peds; few fine black concretions; very strongly acid; gradual smooth boundary.

Bt6—48 to 60 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few clay films on faces of peds; very strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is strongly acid or very strongly acid, except where the surface layer has been limed. In some pedons, the solum has less than 5 percent rounded quartz pebbles and the lower part of the solum has a few chert fragments.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3. The Bt horizon has hue of 10YR or 7.5YR, value of 5, and chroma of 6 to 8. It has mottles in shades of brown and red. The texture is dominantly clay loam but includes loam and sandy clay loam.

Inman Series

The Inman series consists of moderately deep, well drained, flaggy soils. These soils formed in clayey material weathered from interbedded phosphatic limestone and shale. They are on rolling and hilly uplands in the outer part of the Central Basin. Slopes range from 5 to 40 percent.

The Inman soils are geographically associated with Talbott, Hampshire, and Stiversville soils. Talbott soils have a reddish, clayey subsoil and are lower on the landscape than the Inman soils. Hampshire soils contain fewer rock fragments than the Inman soils and are 40 to 60 inches deep over bedrock. Stiversville soils are fine-loamy and are 40 to 60 inches deep over bedrock.

Typical pedon of Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded; 2 miles east of the Davidson County line on Interstate 40, about 150 yards west of the south end of Central Pike bridge over Interstate 40 (atlas sheet 24):

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) flaggy silty clay loam; moderate medium granular structure; friable; many fine roots; about 15 percent fragments of limestone as large as 1 inch thick and 8 inches long; slightly acid; clear smooth boundary.

Bw1—6 to 12 inches; yellowish brown (10YR 5/4) flaggy silty clay; moderate medium and fine subangular blocky structure; firm; common fine roots; about 15 percent fragments of limestone and shale as large as 1 inch thick and 8 inches long; medium acid; clear wavy boundary.

Bw2—12 to 17 inches; yellowish brown (10YR 5/6) flaggy silty clay; few fine and medium distinct strong brown (7.5YR 5/6) and pale brown (10YR 6/3) mottles; 80 percent moderate fine and medium angular blocky structure, 20 percent medium to very thick platy rock structure; firm; about 25 percent fragments of shale and hard limestone as large as 2 inches thick and 8 inches long; slightly acid; gradual irregular boundary.

Bw3—17 to 25 inches; light olive brown (2.5Y 5/6) flaggy silty clay; common fine and medium prominent strong brown (7.5YR 5/6) and pale brown (10YR 6/3) mottles; few thin prominent gray (10YR 6/1) and light gray (10YR 7/2) streaks and seams of highly weathered rock; about 70 percent moderate fine and medium angular blocky structure, 30 percent medium to very thick platy rock structure; firm; about 30 percent fragments of shale and hard limestone as large as 2 inches thick and 10 inches long; slightly acid; gradual irregular boundary.

Cr/B—25 to 32 inches; about 80 percent interbedded, highly fractured, rippable limestone and shale in strata 2 to 4 inches thick; few thin gray coatings along horizontal fracture planes; crevices ⅛ to 1 inch wide filled with mottled brown and gray silty clay and small fragments; slightly acid; clear smooth boundary.

Cr—32 to 72 inches; interbedded phosphatic limestone and shale in strata 2 to 6 inches thick.

The thickness of the solum and the depth to bedrock range from 20 to 40 inches. Thin fragments of rock 1 to 15 inches long make up 10 to 35 percent of each horizon. Reaction dominantly ranges from medium acid to neutral. Thin layers near the bedrock, however, range to mildly alkaline. The content of phosphorus is medium or high.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4. Some pedons have a thin A horizon, which has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. The texture is dominantly silty clay loam in the fine-earth fraction but includes silt loam.

The Bw horizon has hue of 2.5Y, 10YR, or 7.5YR, value of 4 or 5, and chroma of 3 to 6. In the fine-earth fraction, it is silty clay, clay, or silty clay loam and has 35 to 55 percent clay. In most pedons it has few to many mottles in shades of brown and yellow. In most pedons it also has a few mottles, streaks, or coatings of gray material in the lower part that are inherited from the parent rock. The Bw horizon is dominantly a cambic horizon but has some evidence of illuviation.

The B part of the Cr/B horizon generally has colors and textures similar to those in the Bw horizon. In many pedons, however, it does not have a dominant color.

Lindell Series

The Lindell series consists of deep, moderately well drained, nearly level soils. These soils formed in loamy alluvium on flood plains. In many areas the lower part of the profile is a buried soil that formed in older alluvium.

The Lindell soils are geographically associated with Byler, Norene, and Woodmont soils. Byler soils are moderately well drained and have a fragipan. Norene soils are poorly drained and have an argillic horizon. Woodmont soils are somewhat poorly drained and have a fragipan.

Typical pedon of Lindell silt loam, occasionally flooded; 2.7 miles south of the Cumberland River on State Highway 109, east 0.5 mile on Williams Road, 100 feet north of the road, near a stream channel (atlas sheet 7):

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine and medium roots; common fine pores; slightly acid; clear smooth boundary.

Bw1—6 to 15 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; very friable; many fine and medium roots; common fine pores; slightly acid; clear smooth boundary.

Bw2—15 to 24 inches; brown (10YR 4/3) silt loam; many medium distinct dark grayish brown (10YR 4/2) mottles; weak medium and fine subangular blocky structure; friable; many fine and medium roots; common fine pores; slightly acid; clear smooth boundary.

Ab—24 to 30 inches; very dark grayish brown (10YR 3/2) silty clay loam; many fine faint dark grayish brown (10YR 4/2) mottles; moderate medium subangular blocky structure; friable; many fine and medium roots; common fine pores; common fine reddish brown concretions; slightly acid; clear smooth boundary.

Bgb1—30 to 40 inches; dark gray (10YR 4/1) clay loam; many fine faint grayish brown (10YR 5/2) mottles; moderate medium subangular blocky structure; firm; common fine roots; common fine pores; about 10 percent pebbles; common fine reddish brown concretions; slightly acid; abrupt wavy boundary.

Bgb2—40 to 60 inches; gray (10YR 5/1) clay loam; common medium distinct light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable; few fine pores; many large, medium, and small reddish brown concretions; medium acid.

The thickness of the solum ranges from 30 to 65 inches. Reaction ranges from medium acid to neutral in each horizon. The content of chert or gravel fragments ranges from 0 to 15 percent in each horizon.

The Ap horizon and the Ab horizon, if it occurs, have hue of 10YR, value of 3 or 4, and chroma of 2 or 3. Where value is 3, the horizon is less than 7 inches thick. The Ap and Ab horizons are silt loam, loam, or silty clay loam.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4. It has mottles with chroma of 2 or less within 20 inches of the surface. It is silt loam, silty clay loam, or loam.

The Bg or Bgb horizon, if it occurs, has hue of 10YR, value of 4 or 5, and chroma of 1 or 2. It has mottles in shades of brown or gray. The texture is dominantly clay loam or silty clay loam but includes loam and silt loam.

Some pedons have a C horizon. It has hue of 10YR, value of 4 to 6, and chroma of 1 to 4. It has mottles in shades of brown or gray. It is silt loam, loam, silty clay loam, or clay loam.

Lomond Series

The Lomond series consists of deep, well drained soils that formed in a mantle of old silty alluvium or in a mixture of loess and alluvium and the underlying clayey material weathered from limestone. These soils are on broad, undulating and rolling uplands in the inner part of the Central Basin. Slopes range from 2 to 12 percent.

The Lomond soils are geographically associated with Bradyville, Talbott, and Nesbitt soils. Bradyville soils are 40 to 60 inches deep over bedrock and have a clayey subsoil. Talbott soils are 20 to 40 inches deep over bedrock and have a clayey subsoil. Nesbitt soils have a lighter colored surface layer than the Lomond soils and are moderately well drained.

Typical pedon of Lomond silt loam, 2 to 5 percent slopes; 8 miles south of Lebanon on U.S. Highway 231 to Bairds Mill, west 5 miles on a paved road to Gladeville, south 1 mile on a gravel road, west 0.2 mile to an old race track, 100 feet south of the race track, 100 feet west of a field road (atlas sheet 31):

Ap—0 to 8 inches; dark reddish brown (5YR 3/4) silt loam; weak fine and medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

Bt1—8 to 13 inches; reddish brown (5YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; few clay films on faces of peds; slightly acid; gradual smooth boundary.

Bt2—13 to 25 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common clay films on faces of peds; common fine dark brown concretions; slightly acid; gradual smooth boundary.

Bt3—25 to 41 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common clay films on faces of peds; common fine dark brown concretions; slightly acid; gradual smooth boundary.

2Bt4—41 to 53 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common clay films on faces of peds; many fine dark brown concretions; strongly acid; abrupt smooth boundary.

2Bt5—53 to 70 inches; strong brown (7.5YR 5/6) silty clay; common medium prominent yellowish brown (10YR 5/4) and reddish gray (5YR 5/2) mottles; weak medium subangular blocky structure; very firm; common clay films on faces of peds; common medium and fine dark brown concretions; about 12 percent chert fragments ¼ inch to 3 inches across; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Depth to the 2Bt horizon ranges from about 40 to 65 inches. Reaction ranges from slightly acid to strongly acid throughout. Few or no rock fragments are in the A and Bt horizons. The content of chert fragments in the 2Bt horizon ranges from 0 to 10 percent.

The Ap horizon has hue of 10YR to 5YR, value of 3, and chroma of 2 to 4. It generally is silt loam. In a few severely eroded areas, however, it is silty clay loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4, and chroma of 4 to 8. It is dominantly silty clay loam. In the lower part, however, it is silty clay loam, silty clay, or clay.

The 2Bt horizon has hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8. It has few to many mottles in shades of brown, red, or gray. It is silty clay or clay. The content of clay ranges from 40 to 50 percent.

Maury Series

The Maury series consists of deep, well drained, gently sloping and sloping soils that formed in a thin, silty mantle and in the underlying clayey material weathered from limestone or old clayey alluvium. The soils are on broad ridges that have smooth, convex slopes in the outer part of the Central Basin. Slopes range from 2 to 12 percent.

The Maury soils are geographically associated with Stiversville, Armour, and Hampshire soils. Stiversville soils are fine-loamy and are 40 to 60 inches deep over bedrock. Armour soils are on foot slopes and terraces and are fine-silty. Hampshire soils have hue of 7.5YR or 10YR and are 40 to 60 inches deep over bedrock.

Typical pedon of Maury silt loam, 2 to 5 percent slopes, eroded; 12.5 miles west of Lebanon on Interstate 40 to Mt. Juliet exit, south 100 yards on a county road, east 2.5 miles on a subdivision road to the end of a development (atlas sheet 24):

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam; moderate fine and medium granular structure; very friable; many fine roots; slightly acid; abrupt smooth boundary.

Bt1—6 to 11 inches; yellowish red (5YR 4/6) silty clay loam; weak fine subangular blocky structure; friable; common fine roots; few clay films on faces of peds; medium acid; gradual smooth boundary.

Bt2—11 to 18 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; common clay films on faces of peds; common fine black concretions; medium acid; gradual smooth boundary.

Bt3—18 to 26 inches; red (2.5YR 4/6) silty clay; common medium distinct yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; many clay films on faces of peds; common dark brown and black concretions; medium acid; gradual smooth boundary.

Bt4—26 to 35 inches; red (2.5YR 4/6) silty clay; common fine prominent strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; firm; many clay films on faces of peds; common fine black and reddish brown concretions; strongly acid; gradual smooth boundary.

Bt5—35 to 48 inches; red (2.5YR 4/6) silty clay; common fine prominent strong brown (7.5YR 5/6) mottles; moderate fine and medium subangular blocky structure; firm; many clay films on faces of peds; many fine black and reddish brown concretions; strongly acid; gradual smooth boundary.

Bt6—48 to 75 inches; red (2.5YR 4/6) clay; dark red (2.5YR 3/6) coatings on peds; common medium prominent strong brown (7.5YR 5/8) mottles; moderate medium and fine subangular blocky structure; many clay films on faces of peds; common fine black and reddish brown concretions; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction ranges from slightly acid to strongly acid. In some pedons, the upper part of the solum has a few rounded quartz pebbles and the lower part has a few chert fragments.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. Where value is 3, the horizon is less than 7 inches thick. Some pedons have a BA horizon, which has hue of 7.5YR or 5YR and value and chroma of 4. It is silt loam or silty clay loam.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 6. It is silty clay loam, silty clay, or clay.

Mimosa Series

The Mimosa series consists of deep, well drained, gently sloping to steep soils that formed mainly in residuum of phosphatic limestone. These soils are on uplands in the outer part of the Central Basin. Slopes range from 3 to 35 percent.

The Mimosa soils are geographically associated with Barfield, Hawthorne, and Dellrose soils. Barfield soils are shallow over bedrock and generally are in areas lower on the landscape than the Mimosa soils. Hawthorne soils are moderately deep, are loamy, and contain a large amount of rock fragments. They are on the upper part of the slope in positions higher on the landscape than the Dellrose soils. Dellrose soils are deep and loamy. They developed in colluvium on slopes in positions higher on the landscape than the Mimosa soils.

Typical pedon of Mimosa silty clay loam, 3 to 12 percent slopes, eroded; 4 miles west of Lebanon Courthouse on U.S. Highway 70, south 1.5 miles on Bethlehem Road to a cemetery, 200 feet east of the cemetery, 50 feet below the first terraces (atlas sheet 20):

Ap1—0 to 2 inches; dark brown (10YR 3/3) silty clay loam; moderate fine granular structure; very friable; common fine roots; few fine black concretions; few angular chert fragments 0.2 to 1 inch in size; medium acid; abrupt smooth boundary.

Ap2—2 to 7 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/6) silty clay loam; moderate fine granular and subangular blocky structure; friable; common fine roots; few fine black concretions; few angular chert fragments 0.2 to 1 inch in size; medium acid; gradual smooth boundary.

Bt1—7 to 13 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine subangular blocky structure; friable; common fine roots; few clay films; few fine black concretions; few angular chert fragments 0.2 to 1 inch in size; strongly acid; gradual wavy boundary.

Bt2—13 to 23 inches; dark yellowish brown (10YR 4/6) clay; few medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky and angular blocky structure; very firm; few fine roots; few clay films; few fine black concretions; few angular chert fragments 0.5 inch to 1.5 inches in size; strongly acid; gradual wavy boundary.

Bt3—23 to 32 inches; strong brown (7.5YR 5/8) clay; common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium angular blocky structure; very firm; common clay films; few fine black concretions; few angular chert fragments 0.5 inch to 2 inches in size; strongly acid; gradual wavy boundary.

Bt4—32 to 43 inches; strong brown (7.5YR 5/8) clay; many medium prominent yellowish brown (10YR 5/4) mottles; moderate medium angular blocky structure; very firm; common clay films; few fine black concretions; few angular chert fragments 0.5 inch to 2 inches in size; strongly acid; gradual wavy boundary.

Bt5—43 to 48 inches; strong brown (7.5YR 5/8) clay; common fine and medium prominent pale brown (10YR 6/3) and yellowish brown (10YR 5/4) mottles; moderate medium and coarse angular blocky structure; very firm; common clay films; few fine black concretions; few angular chert fragments 0.5 inch to 2 inches in size; strongly acid; gradual wavy boundary.

BC—48 to 52 inches; yellowish brown (10YR 5/6) clay; common fine to coarse distinct light yellowish brown (10YR 6/4) and light brownish gray (10YR 6/2) mottles; weak medium and coarse angular blocky structure; extremely firm; common medium and coarse black concretions; strongly acid; gradual wavy boundary.

C—52 to 55 inches; light olive brown (2.5Y 5/4) clay; many fine distinct light brownish gray (10YR 6/2) mottles; massive; extremely firm; common medium and coarse black concretions; slightly acid.

R—55 inches; phosphatic limestone bedrock.

The thickness of the solum and the depth to bedrock range from 40 to 60 inches. Reaction generally is medium acid or strongly acid. In many pedons, however, the surface layer and the layer directly above the bedrock are less acid. The content of phosphorus is medium or high.

The Ap horizon has hue of 10YR or 7.5YR and value and chroma of 3 or 4. Where value is 3, the horizon is less than 7 inches thick. It is silt loam or silty clay loam.

The Bt horizon has hue of 10YR or 7.5YR, value of 4, and chroma of 4 to 6, or it has value of 5 and chroma of 4 to 8. It is mottled in shades of brown and yellow in the lower part. In the upper few inches, it is silty clay, clay, or silty clay loam. Below this it is silty clay or clay.

The BC and C horizons have hue of 10YR or 2.5Y, value of 5, and chroma of 4 to 6. They are mottled in shades of brown and gray. They are clay or silty clay.

Nesbitt Series

The Nesbitt series consists of deep, moderately well drained, gently sloping soils on uplands. These soils formed in old silty alluvium or valley fill and the underlying clayey material weathered from limestone. They are in the inner part of the Central Basin. Slopes are 2 to 5 percent.

The Nesbitt soils are geographically associated with Talbott, Bradyville, and Lomond soils. Talbott and Bradyville soils are higher on the landscape than the Nesbitt soils. They are well drained and have a clayey subsoil. Lomond soils are deep and well drained.

Typical pedon of Nesbitt silt loam, 2 to 5 percent slopes; south of Lebanon on Cainesville Road to Salem Church, half the distance between the church and Florida Creek (atlas sheet 43):

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; weak medium granular structure; friable; many very fine and fine roots; few fine pores; few small black concretions; medium acid; abrupt smooth boundary.

Bt1—7 to 20 inches; yellowish red (5YR 5/8) silty clay loam; common medium prominent brown (10YR 4/3) mottles; moderate medium subangular blocky structure; friable; common very fine and fine roots; common fine pores; few clay films; common small black concretions and stains; strongly acid; clear wavy boundary.

Bt2—20 to 27 inches; yellowish red (5YR 5/8) silty clay loam; common fine prominent light yellowish brown (10YR 6/4) and strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky and angular blocky structure; firm; few fine roots; common very fine pores; common clay films; many small black concretions and stains; brittle in about 25 percent of the mass; strongly acid; clear irregular boundary.

Bt3—27 to 40 inches; strong brown (7.5YR 5/6) silty clay loam; common fine prominent pale brown (10YR 6/3) and light gray (10YR 7/2) mottles; moderate medium angular blocky structure; firm; few fine roots; common fine pores; many clay films; many medium black concretions and stains; brittle in about 40 percent of the mass; strongly acid; clear smooth boundary.

2Bt4—40 to 60 inches; strong brown (7.5YR 5/8) clay; common medium prominent grayish brown (10YR 5/2) and brown (10YR 5/3) mottles; moderate medium angular blocky structure; very firm; common very fine and few fine pores; many clay films; few small black concretions and stains; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is medium acid or strongly acid, except where the surface layer has been limed.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3. The Bt horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. Mottles with chroma of 2 or less are within a depth of 30 inches. The Bt horizon has none to common mottles in shades of brown or red. It is silt loam or silty clay loam. The 2Bt horizon has hue of 7.5YR or 10YR, value of 5, and chroma of 6 to 8. It has mottles in shades of gray, brown, or red. It is silty clay or clay.

Norene Series

The Norene series consists of deep, poorly drained, nearly level soils. These soils formed in alluvium on low stream terraces and in slight depressions at the head of drainageways. Slopes are 0 to 2 percent.

The Norene soils are geographically associated with Woodmont, Agee, and Lindell soils. Woodmont soils are somewhat poorly drained, are on low terraces adjacent to the Norene soils, and have a fragipan. Agee soils are poorly drained, are in areas adjacent to the Norene soils, have a mollic epipedon, and are clayey. Lindell soils are on flood plains adjacent to the Norene soils and are moderately well drained.

Typical pedon of Norene silt loam, rarely flooded; about 6.5 miles west of Lebanon on U.S. Highway 70, north on Cairo Bend Road to Smith Road, west 1 mile on Smith Road, 50 feet northwest of the road, 500 feet southwest of Dry Fork Branch (atlas sheet 13):

Ap—0 to 9 inches; grayish brown (10YR 5/2) silt loam; common fine distinct brown (7.5YR 4/4) mottles; weak fine granular structure; very friable; many fine and common medium roots; few fine pores; medium acid; clear smooth boundary.

AB—9 to 15 inches; dark grayish brown (10YR 4/2) silt loam; common distinct brown (7.5YR 4/4) coatings on faces of peds; weak medium subangular blocky and weak fine granular structure; very friable; many fine roots; few fine pores; many fine black concretions; medium acid; gradual smooth boundary.

Btg1—15 to 32 inches; gray (10YR 5/1) silty clay loam; many medium prominent dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; very friable; common fine roots; few fine pores; few faint clay films on faces of peds and in pores; medium acid; clear wavy boundary.

Btg2—32 to 42 inches; gray (10YR 5/1) silty clay loam; many medium prominent dark yellowish brown (10YR 4/6) mottles; weak fine and medium subangular blocky structure; firm; few fine roots; few fine pores; few faint clay films on faces of peds and in pores; medium acid; clear wavy boundary.

Cg—42 to 60 inches; gray (10YR 5/1) silty clay; many fine prominent strong brown (7.5YR 5/8) mottles; massive; firm; few fine roots; medium acid.

The thickness of the solum ranges from 30 to 50 inches. Depth to limestone bedrock is more than 60 inches. Reaction ranges from neutral to medium acid.

The Ap and AB horizons have hue of 10YR, value of 4 or 5, and chroma of 2. They have none to common mottles in shades of brown or gray.

The Btg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2, or it is neutral in hue. It has mottles in shades of brown or gray. It is silt loam or silty clay loam.

The Cg horizon has the same colors as the Btg horizon. It is silty clay loam or silty clay.

Stiversville Series

The Stiversville series consists of deep, well drained, gently sloping to steep soils that formed in residuum of interbedded siltstone, sandstone, and limestone. These soils are on narrow ridges and hillsides in the outer part of the Central Basin. Slopes range from 2 to 30 percent.

The Stiversville soils are geographically associated with Maury, Hicks, Hampshire, and Inman soils. Maury soils have a clayey control section and have hue of 5YR or redder in the subsoil. Hicks soils have fewer rock fragments in the upper part than the Stiversville soils and are fine-silty. Hampshire and Inman soils have a clayey control section. Also, Inman soils are flaggy and are 20 to 40 inches deep over bedrock.

Typical pedon of Stiversville silt loam, 5 to 12 percent slopes, eroded; 1.7 miles east of the Davidson County line on U.S. Highway 70 to Green Hill Road, north 1.7 miles on Green Hill Road, 200 feet west of the road, 200 feet north of a field boundary (atlas sheet 11):

Ap—0 to 7 inches; dark brown (10YR 3/3) silt loam; weak medium granular structure; very friable; many medium and fine roots; many fine pores; medium acid; abrupt smooth boundary.

BA—7 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very friable; many medium and fine roots; many fine pores; about 3 percent sandstone fragments less than 2 inches long; medium acid; gradual smooth boundary.

Bt1—12 to 19 inches; strong brown (7.5YR 5/6) silt loam; few fine prominent dark yellowish brown (10YR 4/4) mottles; weak medium subangular blocky structure; friable; common fine roots; many fine pores; few faint clay films in pores; about 3 percent sandstone fragments less than 1 inch long; medium acid; gradual smooth boundary.

Bt2—19 to 25 inches; strong brown (7.5YR 4/6) clay loam; few fine prominent yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; common fine roots; many fine pores; common faint clay films on faces of peds; about 10 percent soft sandstone fragments less than 1 inch long; few fine black concretions; strongly acid; abrupt wavy boundary.

Bt3—25 to 34 inches; strong brown (7.5YR 4/6) channery clay loam; common medium prominent yellowish brown (10YR 5/4) mottles; moderate medium subangular blocky structure; friable; few very fine roots; many fine pores; common faint clay films on faces of peds; about 25 percent soft sandstone fragments less than 3 inches long; common fine and medium black concretions; strongly acid; abrupt wavy boundary.

Bt4—34 to 45 inches; mottled brown (7.5YR 4/4), yellowish brown (10YR 5/4), and dark yellowish brown (10YR 4/4) channery clay loam; moderate medium subangular blocky structure; friable; few fine pores; few faint clay films on faces of peds; about 15 percent soft sandstone fragments less than 3 inches long; few fine black concretions; strongly acid; abrupt wavy boundary.

Cr—45 to 60 inches; interbedded, rippable sandstone, siltstone, and limestone.

The thickness of the solum and the depth to rippable bedrock are 40 to 60 inches. Reaction is medium acid or strongly acid. The content of phosphorus is medium or high. The content of soft and hard rock fragments ranges from 0 to 15 percent in the A horizon and in the upper part of the B horizons and from 5 to 25 percent in the lower part of the Bt horizon. Some pedons have a thin CB or C horizon, which has 25 to 50 percent rock fragments.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. It is silt loam or loam.

The BA horizon, if it occurs, has hue of 7.5YR or 10YR, value of 4, and chroma of 4 to 6. It is silt loam or loam.

The Bt horizon generally has hue of 7.5YR, value of 4 or 5, and chroma of 4 to 6. In some pedons, however, it has subhorizons with hue of 5YR or 10YR. It is dominantly loam or clay loam in the fine-earth fraction, but it has thin subhorizons of silt loam, silty clay loam, or clay.

The CB or C horizon, if it occurs, has colors and textures similar to those in the lower part of the Bt horizon.

The Cr horizon is dominantly siltstone and fine grained sandstone interbedded with limestone. It generally is soft enough to be dug with a spade but has a few hard strata.

Talbott Series

The Talbott series consists of moderately deep, well drained soils that formed in clayey material weathered from limestone. These soils are on low hills in the inner part of the Central Basin. Slopes range from 2 to 20 percent.

The Talbott soils are geographically associated with Gladeville and Bradyville soils. Gladeville soils are on slightly lower slopes than the Talbott soils and are less than 12 inches deep over bedrock. Bradyville soils are adjacent to the Talbott soils and are more than 40 inches deep over bedrock.

Typical pedon of Talbott silt loam, 2 to 5 percent slopes, eroded; 2.2 miles north of the Rutherford County line on U.S. Highway 231, east 2.5 miles on a gravel road to an intersection, north 0.3 mile on a gravel road, 400 feet east of the road (atlas sheet 42):

Ap—0 to 5 inches; brown (7.5YR 4/4) silt loam; moderate medium granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—5 to 13 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; common medium and fine roots; few clay films on faces of peds; few fine dark brown concretions; strongly acid; gradual smooth boundary.

Bt2—13 to 17 inches; red (2.5YR 4/8) clay; common medium prominent strong brown (7.5YR 5/8) mottles; moderate medium and fine angular blocky structure; very firm; common medium and fine roots; many clay films on faces of peds; few fine dark brown concretions; strongly acid; gradual wavy boundary.

Bt3—17 to 25 inches; strong brown (7.5YR 5/6) clay; common medium distinct yellowish red (5YR 4/6) mottles; moderate medium and fine angular blocky structure; very firm; common medium and fine roots; many clay films on faces of peds; medium acid; gradual wavy boundary.

BC—25 to 30 inches; yellowish brown (10YR 5/8) clay; common medium prominent brown (10YR 5/3) mottles; weak medium angular blocky structure; very firm; few fine roots; few fine dark brown concretions; mildly alkaline; clear smooth boundary.

R—30 inches; limestone bedrock.

The thickness of the solum and the depth to bedrock are 20 to 40 inches. Reaction is dominantly medium acid or strongly acid. The horizon directly above the bedrock, however, ranges to mildly alkaline. The content of limestone or chert fragments ranges from 0 to 5 percent in all horizons.

The Ap horizon generally has hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 3 or 4. In some severely eroded areas, however, it has hue of 5YR and chroma of 6. Undisturbed areas have a thin A horizon, which has hue of 10YR, value of 3, and chroma of 2 or 3. The E horizon, if it occurs, has the same colors as the Ap horizon. The A horizon generally is silt loam. In severely eroded areas, however, it is silty clay loam.

The Bt horizon has hue of 7.5YR, value of 5, and chroma of 6 to 8, or it has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 4 to 8. The upper part of the horizon has none or few mottles in shades of brown and red, and the lower part has few or common. The texture is clay or silty clay.

The BC and C horizons, if they occur, have hue of 7.5YR to 2.5Y, value of 5, and chroma of 6 to 8. They have few or common mottles in shades of brown, red, or gray and in some pedons are mottled without a dominant color. The texture is silty clay or clay.

Tupelo Series

The Tupelo series consists of deep, somewhat poorly drained, slowly permeable, nearly level soils. These soils formed in old clayey alluvium, clayey material weathered from limestone, or both. These soils are on stream terraces or broad upland flats in the inner part of the Central Basin. Slopes are 0 to 2 percent.

The Tupelo soils are geographically associated with Byler, Norene, Agee, and Capshaw soils. Byler soils are moderately well drained and have a fragipan. Norene soils are fine-silty. Agee soils have a mollic epipedon and are poorly drained. Capshaw soils are moderately well drained and are higher than the Tupelo soils on stream terraces and uplands.

Typical pedon of Tupelo silt loam; 8 miles southeast of Lebanon on U.S. Highway 70, west 1.1 miles on Young Road, 0.5 mile south of the road (atlas sheet 33):

Ap—0 to 10 inches; brown (10YR 5/3) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; common fine roots; common fine and few medium pores; strongly acid; clear smooth boundary.

Bt1—10 to 14 inches; yellowish brown (10YR 5/4) silty clay loam; few fine distinct light olive brown (2.5Y 5/4) and few medium faint pale brown (10YR 6/3) mottles; weak fine and medium subangular blocky structure; friable; common fine roots; common fine pores; few faint clay films on faces of peds; few black and brown concretions; strongly acid; clear smooth boundary.

Bt2—14 to 28 inches; light olive brown (2.5Y 5/4) clay; common medium distinct olive yellow (2.5Y 6/6) and light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; firm; few fine roots; common fine pores; few faint clay films on faces of peds; strongly acid; clear smooth boundary.

Btg—28 to 45 inches; light gray (10YR 7/2) clay; many medium distinct brown (10YR 5/3) and yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few very fine roots; few fine and few medium pores; many faint clay films on faces of peds; strongly acid; clear smooth boundary.

Cg—45 to 60 inches; gray (10YR 6/1) clay; many medium prominent yellowish brown (10YR 5/6) and light olive brown (2.5Y 5/4) mottles; massive; very firm; slightly acid.

The thickness of the solum ranges from 40 to 60 inches. The depth to bedrock is more than 60 inches. Reaction ranges from strongly acid to slightly acid. Rock fragments make up less than 5 percent of each horizon.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 to 4.

The Bt horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 4 to 6. It has mottles in shades of brown and gray. The gray mottles are in the upper 10 inches. The texture is silty clay loam, silty clay, or clay.

The Btg horizon has hue of 10YR, value of 6 or 7, and chroma of 1 or 2. It has mottles in shades of brown. It is clay or silty clay.

The Cg horizon has hue of 10YR, value of 5 or 6, and chroma of 1 or 2. It has mottles in shades of brown. It is clay or silty clay.

Waynesboro Series

The Waynesboro series consists of deep, well drained, gently sloping to moderately steep soils that formed in old alluvium. These soils are on high stream terraces and uplands in the northern part of the survey area. Slopes range from 2 to 20 percent.

The Waynesboro soils are geographically associated with Armour, Bewleyville, and Byler soils. Armour soils are on lower terraces than the Waynesboro soils and on foot slopes and are fine-silty. Bewleyville soils are higher on the landscape than the Waynesboro soils and are fine-silty. Byler soils have a fragipan about 2 feet below the surface.

Typical pedon of Waynesboro loam, in an area of Waynesboro loam, 5 to 12 percent slopes, eroded; 0.5 mile north of Lebanon Square on U.S. Highway 231 to Coles Ferry Pike, west on Coles Ferry Pike to Cairo Bend Road, north 3.6 miles on Cairo Bend Road, east 175 feet on a dirt road, 45 feet north of the road (atlas sheet 2):

Ap—0 to 6 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; common fine and medium roots; medium acid; abrupt smooth boundary.

BA—6 to 10 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; friable; common fine and very fine roots; medium acid; clear smooth boundary.

Bt1—10 to 34 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; friable; common medium and fine roots; common distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—34 to 43 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; friable; common fine and very fine roots; many distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt3—43 to 55 inches; red (2.5YR 4/8) clay loam; few fine distinct yellowish red (5YR 5/8) mottles; moderate medium angular and subangular blocky structure; friable; few coarse and common medium and fine roots; many distinct clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt4—55 to 65 inches; red (2.5YR 4/8) clay loam; few fine prominent strong brown (7.5YR 5/8) mottles; moderate medium angular and subangular blocky structure; friable; few coarse and common medium and fine roots; common distinct clay films on faces of peds; strongly acid.

The thickness of the solum and the depth to bedrock are more than 60 inches. Reaction is strongly acid or very strongly acid, except where the surface layer has been limed. The content of pebbles ranges from 0 to 15 percent in each horizon.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4, or it has hue of 7.5YR, value of 4, and chroma of 2 to 4. Some pedons in wooded areas have a thin A horizon, which has hue of 10YR, value of 3, and chroma of 2. The texture of both horizons is dominantly loam but includes some silt loam.

The BA horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 4 to 6. It is loam or silt loam.

The Bt horizon dominantly has hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8. In the upper part in some pedons, however, it has hue of 7.5YR, value of 4 or 5, and chroma of 6 to 8. It has mottles, mostly in the lower part, in shades of red or brown. It is clay loam or clay and the content of clay ranges from about 35 to 45 percent.

Woodmont Series

The Woodmont series consists of deep, somewhat poorly drained soils. These soils have a slowly permeable fragipan. They formed in old silty alluvium or in a mixture of alluvium and loess. They are on stream terraces and broad upland flats in the northern part of the survey area in the inner part of the Central Basin. Slopes are 0 to 2 percent.

The Woodmont soils are geographically associated with Byler, Norene, and Lindell soils. Byler soils are higher on the landscape than the Woodmont soils and are moderately well drained. Norene soils are poorly drained and do not have a fragipan. Lindell soils are on flood plains adjacent to the Woodmont soils and are moderately well drained.

Typical pedon of Woodmont silt loam; 1.6 miles east of Laguardo on Academy Road, 80 feet north of the road (atlas sheet 7):

Ap—0 to 8 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable; common fine roots; common fine and few medium pores; medium acid; clear smooth boundary.

Bt1—8 to 14 inches; light olive brown (2.5Y 5/4) silt loam; common fine prominent light brownish gray (10YR 6/2) and few medium distinct pale brown (10YR 6/3) mottles; weak fine subangular blocky structure; friable; common fine roots; common fine pores; few faint clay films in pores; few black and brown concretions; strongly acid; clear smooth boundary.

Bt2—14 to 20 inches; light olive brown (2.5Y 5/4) silt loam; common medium distinct olive yellow (2.5Y 6/6) and common medium prominent light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; common fine pores; few faint clay films in pores; strongly acid; clear smooth boundary.

E/Bx—20 to 23 inches; pale brown (10YR 6/3) silt loam (E part) surrounding pieces of yellowish brown (10YR 5/8) silt loam (B part); few medium distinct light yellowish brown (2.5YR 6/4) mottles; weak medium subangular blocky structure; very friable; few fine roots; light gray (10YR 7/1) skeletans on faces of peds; slightly brittle; common fine and medium dark brown concretions; strongly acid; clear wavy boundary.

Btx1—23 to 30 inches; light olive brown (2.5Y 5/4) silt loam prism interiors, light gray (10YR 7/2) seams between prisms; many medium prominent grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots in seams; common fine and few medium pores; many distinct clay films on vertical prism faces and in pores; slightly brittle; strongly acid; clear smooth boundary.

Btx2—30 to 60 inches; mottled light olive brown (2.5Y 5/4), gray (10YR 6/1), and yellowish brown (10YR 5/6) silty clay loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots along prism faces; few medium and common fine pores; common distinct clay films on vertical prism faces and on secondary ped faces; brittle; strongly acid.

The thickness of the solum is more than 60 inches. The depth to a fragipan ranges from 20 to 36 inches. The content of coarse fragments is 0 to 3 percent above the fragipan and 0 to 5 percent in the fragipan. Reaction is dominantly strongly acid but ranges to medium acid in the fragipan, and the surface layer is less acid where limed.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3.

The Bt horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 4 to 6. It has mottles in shades of gray and brown. It has mottles with chroma of 2 or less within a depth of 16 inches. It is silt loam or silty clay loam and has less than 30 percent clay.

The E/Bx horizon is dominantly E material surrounding pieces of Bx material. The E material has hue of 10YR, value of 6 or 7, and chroma of 3 or less, or it has value of 5 and chroma of 2 or less. The Bx material has higher chroma.

The Btx horizon has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 4 to 6. It has many mottles in shades of gray and brown, and some subhorizons are mottled without a dominant matrix color. It is silt loam or silty clay loam.

Some pedons have a 2Bt or 2C horizon below a depth of 4 feet. It formed in clayey residuum of limestone.

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Glossary

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 2.0
Low	2.0 to 4.0
Moderate	4.0 to 6.0
High	more than 6.0

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.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

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

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.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil. A soil that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis.

Cherty soil. A soil that is, by volume, more than 15 percent angular chert.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Colluvium. Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are:

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic)—Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated)—Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay are in the soil. The soil is not a source of gravel or sand for construction purposes.

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.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist, 6 to 15 inches (15 to 37.5 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.6 centimeters) in diameter.

Green-manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is, in part, a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as accumulation of clay, sesquioxides, humus, or a combination of these; prismatic or blocky structure; redder or browner colors than those in the A horizon; or a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated rock (unweathered bedrock) beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material. This contrasts with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

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.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

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 the wind.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan.*

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water to move through the profile. Permeability is measured as the number of inches per hour that water moves through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Subsurface tunnels or pipelike cavities are formed by water moving through the soil.

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.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

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
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Rippable bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 drawbar horsepower rating.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saprolite (soil science). Unconsolidated, residual material underlying the soil and grading to hard bedrock below.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the substratum. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the substratum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

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."

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). A layer of otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited in stream valleys by heavily loaded streams.

Weathering. All physical and chemical changes produced by atmospheric agents in rocks or other deposits at or near the earth's surface. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1951-84 at Lebanon, Tennessee)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	45.2	23.7	34.5	72	-8	28	4.61	2.21	6.69	8	3.3
February----	49.9	26.1	38.0	76	-1	18	4.27	2.17	5.66	7	3.3
March-------	60.3	35.9	48.1	83	13	106	5.67	3.41	7.82	9	.7
April-------	71.3	45.6	58.5	88	25	274	4.76	3.06	6.69	8	.0
May---------	79.1	53.0	66.1	92	32	499	4.71	2.81	6.81	7	.0
June--------	86.4	61.5	74.0	97	44	720	4.04	2.63	5.46	6	.0
July--------	89.6	65.6	77.6	100	51	856	4.63	2.34	6.71	7	.0
August------	88.8	64.1	76.5	99	49	822	3.81	2.08	5.42	6	.0
September---	82.8	57.0	69.9	95	36	597	3.63	1.54	5.55	5	.0
October-----	72.9	44.2	58.6	88	24	290	3.16	1.45	4.57	5	.0
November----	59.9	36.1	48.0	82	14	62	4.00	2.16	5.78	7	.3
December----	50.4	29.1	39.8	74	4	33	4.81	2.39	6.81	8	.9
Yearly:											
Average---	69.7	45.2	57.5	---	---	---	---	---	---	---	---
Extreme---	---	---	---	101	-9	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,305	52.10	44.57	60.26	83	8.5

* 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 1951-84 at Lebanon, Tennessee)

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--	Apr. 7	Apr. 14	May 3
2 years in 10 later than--	Apr. 2	Apr. 9	Apr. 27
5 years in 10 later than--	Mar. 24	Apr. 1	Apr. 16
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 28	Oct. 9	Oct. 2
2 years in 10 earlier than--	Nov. 1	Oct. 16	Oct. 6
5 years in 10 earlier than--	Nov. 10	Oct. 28	Oct. 14

TABLE 3.--GROWING SEASON

(Recorded in the period 1951-84 at Lebanon, Tennessee)

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	212	189	166
8 years in 10	218	196	171
5 years in 10	231	210	181
2 years in 10	244	224	192
1 year in 10	253	233	199

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
Ag	Agee silty clay loam, rarely flooded	2,391	0.7
AnC	Arents, 2 to 15 percent slopes	437	0.1
ArB	Armour silt loam, 2 to 5 percent slopes	3,611	1.0
ArC2	Armour silt loam, 5 to 12 percent slopes, eroded	3,042	0.8
ArD2	Armour silt loam, 12 to 20 percent slopes, eroded	505	0.1
At	Arrington silt loam, occasionally flooded	5,805	1.6
BaD	Barfield-Rock outcrop complex, 8 to 20 percent slopes	10,681	2.9
BeB2	Bewleyville silt loam, 2 to 5 percent slopes, eroded	599	0.2
BeC2	Bewleyville silt loam, 5 to 12 percent slopes, eroded	873	0.2
BrB2	Bradyville silt loam, 2 to 5 percent slopes, eroded	16,889	4.6
BrC2	Bradyville silt loam, 5 to 12 percent slopes, eroded	4,053	1.1
BvB2	Bradyville silt loam, 2 to 5 percent slopes, eroded, rocky	1,214	0.3
ByB	Byler silt loam, 2 to 5 percent slopes	5,390	1.5
ByC2	Byler silt loam, 5 to 12 percent slopes, eroded	1,756	0.5
CaB	Capshaw silt loam, 2 to 6 percent slopes	11,096	3.1
DeE	Dellrose cherty silt loam, 20 to 30 percent slopes	1,258	0.3
DeF	Dellrose cherty silt loam, 30 to 50 percent slopes	1,070	0.3
DoB	Dowellton silt loam, 1 to 6 percent slopes	1,627	0.4
Ea	Eagleville silty clay loam, occasionally flooded	2,995	0.8
Eg	Egam silty clay loam, occasionally flooded	8,756	2.4
GaC	Gladeville-Rock outcrop complex, 2 to 15 percent slopes	52,784	14.4
HaB2	Hampshire silt loam, 2 to 5 percent slopes, eroded	668	0.2
HaC2	Hampshire silt loam, 5 to 12 percent slopes, eroded	7,539	2.1
HaD2	Hampshire silt loam, 12 to 20 percent slopes, eroded	11,529	3.2
HaD3	Hampshire silty clay loam, 12 to 20 percent slopes, severely eroded	2,029	0.6
HbD	Hawthorne cherty silt loam, 5 to 20 percent slopes	546	0.2
HbF	Hawthorne cherty silt loam, 30 to 60 percent slopes	1,172	0.3
HcB	Hicks silt loam, 2 to 5 percent slopes	365	0.1
HcC2	Hicks silt loam, 5 to 12 percent slopes, eroded	300	0.1
HoB2	Holston loam, 2 to 8 percent slopes, eroded	440	0.1
InC2	Inman flaggy silty clay loam, 5 to 12 percent slopes, eroded	4,201	1.2
InD2	Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded	11,133	3.1
InE2	Inman flaggy silty clay loam, 20 to 30 percent slopes, eroded	6,400	1.8
Ld	Lindell silt loam, occasionally flooded	13,545	3.7
LoB	Lomond silt loam, 2 to 5 percent slopes	4,627	1.3
LoC2	Lomond silt loam, 5 to 12 percent slopes, eroded	485	0.1
MaB2	Maury silt loam, 2 to 5 percent slopes, eroded	1,925	0.5
MaC2	Maury silt loam, 5 to 12 percent slopes, eroded	2,434	0.7
MmC2	Mimosa silty clay loam, 3 to 12 percent slopes, eroded	3,088	0.8
MmD2	Mimosa silty clay loam, 12 to 25 percent slopes, eroded	2,393	0.7
MrC2	Mimosa-Rock outcrop complex, 3 to 15 percent slopes	5,457	1.5
MrE2	Mimosa-Rock outcrop complex, 15 to 35 percent slopes	10,204	2.8
NeB	Nesbitt silt loam, 2 to 5 percent slopes	1,048	0.3
No	Norene silt loam, rarely flooded	551	0.2
Pt	Pits and Dumps	235	0.1
RoE	Rock outcrop-Mimosa-Gladeville complex, 15 to 35 percent slopes	8,722	2.4
StB	Stiversville silt loam, 2 to 5 percent slopes	1,425	0.4
StC2	Stiversville silt loam, 5 to 12 percent slopes, eroded	5,057	1.4
StD2	Stiversville silt loam, 12 to 20 percent slopes, eroded	3,206	0.9
StE2	Stiversville silt loam, 20 to 30 percent slopes, eroded	877	0.2
TaB2	Talbott silt loam, 2 to 5 percent slopes, eroded	20,270	5.5
TaB3	Talbott silty clay loam, 2 to 5 percent slopes, severely eroded	3,115	0.9
TaC2	Talbott silt loam, 5 to 12 percent slopes, eroded	20,943	5.7
TaC3	Talbott silty clay loam, 5 to 12 percent slopes, severely eroded	4,898	1.3
TrC2	Talbott silt loam, 5 to 20 percent slopes, eroded, rocky	60,090	16.4
Tu	Tupelo silt loam	1,212	0.3
WaB2	Waynesboro loam, 2 to 5 percent slopes, eroded	465	0.1
WaC2	Waynesboro loam, 5 to 12 percent slopes, eroded	2,576	0.7
WaD2	Waynesboro loam, 12 to 20 percent slopes, eroded	1,892	0.5
Wo	Woodmont silt loam	1,206	0.3
	Total	365,100	100.0

TABLE 5.--PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
ArB	Armour silt loam, 2 to 5 percent slopes
At	Arrington silt loam, occasionally flooded
BeB2	Bewleyville silt loam, 2 to 5 percent slopes, eroded
BrB2	Bradyville silt loam, 2 to 5 percent slopes, eroded
ByB	Byler silt loam, 2 to 5 percent slopes
CaB	Capshaw silt loam, 2 to 6 percent slopes
Ea	Eagleville silty clay loam, occasionally flooded
Eg	Egam silty clay loam, occasionally flooded
HaB2	Hampshire silt loam, 2 to 5 percent slopes, eroded
HcB	Hicks silt loam, 2 to 5 percent slopes
HoB2	Holston loam, 2 to 8 percent slopes, eroded
Ld	Lindell silt loam, occasionally flooded
LoB	Lomond silt loam, 2 to 5 percent slopes
MaB2	Maury silt loam, 2 to 5 percent slopes, eroded
NeB	Nesbitt silt loam, 2 to 5 percent slopes
StB	Stiversville silt loam, 2 to 5 percent slopes
Tu	Tupelo silt loam (where drained)
WaB2	Waynesboro loam, 2 to 5 percent slopes, eroded
Wo	Woodmont silt loam

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Tobacco	Tall fescue-ladino
		Bu	Bu	Bu	Lbs	AUM*
Ag----------------------- Agee	IIIw	65	30	---	---	7.0
AnC. Arents						
ArB---------------------- Armour	IIe	120	43	53	2,900	8.0
ArC2--------------------- Armour	IIIe	105	38	50	2,600	7.5
ArD2--------------------- Armour	IVe	90	30	45	2,200	7.0
At----------------------- Arrington	IIw	130	45	55	3,000	8.5
BaD---------------------- Barfield-Rock outcrop	VIIs	---	---	---	---	3.5
BeB2--------------------- Bewleyville	IIe	110	38	53	2,550	7.5
BeC2--------------------- Bewleyville	IIIe	100	34	51	2,350	7.0
BrB2--------------------- Bradyville	IIe	85	30	48	2,000	6.5
BrC2--------------------- Bradyville	IIIe	75	26	42	1,800	6.0
BvB2--------------------- Bradyville	IVs	---	---	38	---	5.0
ByB---------------------- Byler	IIe	90	35	45	2,200	7.0
ByC2--------------------- Byler	IIIe	75	30	40	2.000	6.5
CaB---------------------- Capshaw	IIe	85	35	45	2,000	6.5
DeE---------------------- Dellrose	VIe	---	---	---	---	5.5
DeF---------------------- Dellrose	VIIe	---	---	---	---	4.0
DoB---------------------- Dowellton	IVw	---	25	---	---	5.5
Ea----------------------- Eagleville	IIIw	70	35	---	---	7.0

See footnote at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Tobacco	Tall fescue-ladino
		Bu	Bu	Bu	Lbs	AUM*
Eg----------------------- Egam	IIw	110	40	50	2,000	8.0
GaC---------------------- Gladeville-Rock outcrop	VIIs	---	---	---	---	---
HaB2--------------------- Hampshire	IIe	85	30	45	2,100	6.5
HaC2--------------------- Hampshire	IIIe	75	26	42	1,900	6.0
HaD2--------------------- Hampshire	IVe	65	22	38	---	5.5
HaD3--------------------- Hampshire	VIe	---	---	---	---	4.5
HbD---------------------- Hawthorne	VIs	---	---	---	---	3.5
HbF---------------------- Hawthorne	VIIs	---	---	---	---	---
HcB---------------------- Hicks	IIe	95	32	48	2,300	7.0
HcC2--------------------- Hicks	IIIe	85	28	45	2,100	6.5
HoB2--------------------- Holston	IIe	85	30	45	2,200	6.5
InC2--------------------- Inman	IVe	---	---	35	---	4.5
InD2--------------------- Inman	VIe	---	---	---	---	4.0
InE2--------------------- Inman	VIIe	---	---	---	---	3.0
Ld----------------------- Lindell	IIw	110	40	45	2,000	8.0
LoB---------------------- Lomond	IIe	110	40	50	2,600	8.0
LoC2--------------------- Lomond	IIIe	95	35	45	2,300	7.5
MaB2--------------------- Maury	IIe	115	40	50	2,800	8.0
MaC2--------------------- Maury	IIIe	105	36	47	2,500	7.5
MmC2--------------------- Mimosa	IVe	---	---	40	---	4.5

See footnote at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Tobacco	Tall fescue-ladino
		Bu	Bu	Bu	Lbs	AUM*
MmD2 Mimosa	VIe	---	---	---	---	4.0
MrC2 Mimosa-Rock outcrop	VIs	---	---	---	---	4.0
MrE2 Mimosa-Rock outcrop	VIIs	---	---	---	---	3.0
NeB Nesbitt	IIe	100	38	45	2,200	7.0
No Norene	IVw	---	30	---	---	6.5
Pt. Pits and Dumps						
RoE Rock outcrop-Mimosa-Gladeville	VIIs	---	---	---	---	---
StB Stiversville	IIe	85	30	45	2,250	6.5
StC2 Stiversville	IIIe	75	26	42	2,000	6.0
StD2 Stiversville	IVe	65	22	38	1,700	5.5
StE2 Stiversville	VIe	---	---	---	---	4.5
TaB2 Talbott	IIIe	65	22	40	1,700	5.0
TaB3 Talbott	IVe	---	---	35	---	4.5
TaC2 Talbott	IVe	---	---	35	1,500	4.5
TaC3 Talbott	VIe	---	---	---	---	4.0
TrC2 Talbott	VIs	---	---	---	---	4.0
Tu Tupelo	IIw	75	32	---	---	6.5
WaB2 Waynesboro	IIe	95	34	50	2,400	7.0
WaC2 Waynesboro	IIIe	85	30	48	2,200	6.5
WaD2 Waynesboro	IVe	70	---	45	---	6.0

See footnote at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Tobacco	Tall fescue-ladino
		Bu	Bu	Bu	Lbs	AUM*
Wo------------------------- Woodmont	IIIw	70	30	---	---	6.5

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Ag-------------- Agee	Slight	Moderate	Moderate	Moderate	Severe	Eastern cottonwood--	100	129	Eastern cottonwood, sweetgum, cherrybark oak.
						Sweetgum-----------	90	100	
						Cherrybark oak------	90	114	
						Water oak-----------	90	86	
						American sycamore---	---	---	
ArB, ArC2------- Armour	Slight	Slight	Slight	Slight	Moderate	Northern red oak----	70	57	Yellow-poplar, loblolly pine, black walnut.
						Eastern redcedar----	43	43	
						White oak-----------	70	57	
						Yellow-poplar-------	90	86	
						Loblolly pine-------	77	100	
ArD2------------ Armour	Moderate	Moderate	Slight	Slight	Moderate	Northern red oak----	70	57	Yellow-poplar, loblolly pine.
						Eastern redcedar----	43	43	
						Yellow-poplar-------	90	86	
						Loblolly pine-------	77	100	
At-------------- Arrington	Slight	Slight	Slight	Slight	Severe	Yellow-poplar-------	100	114	Yellow-poplar, black walnut, loblolly pine.
						White oak-----------	80	57	
						Southern red oak----	80	57	
						Loblolly pine-------	90	129	
						Black walnut--------	---	---	
BaD:									
Barfield-------	Slight	Slight	Moderate	Severe	Moderate	Eastern redcedar----	40	43	Eastern redcedar.
Rock outcrop.									
BeB2------------ Bewleyville	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar-------	95	100	Yellow-poplar, loblolly pine, black walnut.
						White oak-----------	73	57	
						Loblolly pine-------	80	114	
BeC2------------ Bewleyville	Moderate	Slight	Slight	Slight	Moderate	Yellow-poplar-------	95	100	Yellow-poplar, loblolly pine, black walnut.
						White oak-----------	73	57	
						Loblolly pine-------	80	114	
BrB2------------ Bradyville	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar-------	90	86	Yellow-poplar, loblolly pine.
						Northern red oak----	70	57	
						White oak-----------	70	57	
						Eastern redcedar----	40	43	
BrC2------------ Bradyville	Moderate	Slight	Slight	Slight	Moderate	Yellow-poplar-------	90	86	Yellow-poplar, loblolly pine.
						Northern red oak----	70	57	
						White oak-----------	70	57	
						Eastern redcedar----	40	43	
BvB2------------ Bradyville	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar-------	90	86	Yellow-poplar, loblolly pine.
						Northern red oak----	70	57	
						White oak-----------	70	57	
						Eastern redcedar----	40	43	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
ByB, ByC2-------Byler	Slight	Slight	Slight	Moderate	Moderate	Yellow-poplar-------	90	86	Loblolly pine, shortleaf pine, yellow-poplar.
						Southern red oak----	70	57	
						Loblolly pine-------	80	114	
						Shortleaf pine------	70	114	
CaB-------------Capshaw	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar-------	90	86	Loblolly pine, shortleaf pine, yellow-poplar.
						Loblolly pine-------	80	114	
						Northern red oak----	70	57	
DeE-------------Dellrose	Moderate	Moderate	Slight	Slight	Moderate	Yellow-poplar-------	98	100	Yellow-poplar, loblolly pine, black walnut.
						Northern red oak----	76	57	
						Loblolly pine-------	90	129	
DeF-------------Dellrose	Severe	Severe	Slight	Slight	Moderate	Yellow-poplar-------	98	100	Yellow-poplar, loblolly pine, black walnut.
						Northern red oak----	76	57	
						Loblolly pine-------	90	129	
DoB-------------Dowellton	Slight	Moderate	Moderate	Slight	Severe	Sweetgum-----------	80	86	Loblolly pine, sweetgum.
						Loblolly pine-------	80	114	
						Water oak-----------	90	86	
Ea--------------Eagleville	Slight	Moderate	Moderate	Slight	Severe	Eastern cottonwood--	100	129	Loblolly pine, eastern cottonwood, sweetgum.
						Water oak-----------	90	86	
						Sweetgum-----------	90	100	
						Loblolly pine-------	90	129	
Eg--------------Egam	Slight	Slight	Moderate	Slight	Severe	Yellow-poplar-------	100	114	Yellow-poplar, black walnut, loblolly pine.
						Loblolly pine-------	90	129	
						Southern red oak----	80	57	
						Water oak-----------	90	86	
GaC:									
Gladeville-----	Slight	Moderate	Severe	Severe	Slight	Eastern redcedar----	35	29	Eastern redcedar.
						Hackberry-----------	---	---	
Rock outcrop.									
HaB2------------Hampshire	Slight	Slight	Slight	Slight	Moderate	Southern red oak----	70	57	Yellow-poplar, loblolly pine.
						Loblolly pine-------	80	114	
						Eastern redcedar----	50	57	
HaC2------------Hampshire	Moderate	Slight	Slight	Slight	Moderate	Southern red oak----	70	57	Yellow-poplar, loblolly pine.
						Loblolly pine-------	80	114	
						Eastern redcedar----	50	57	
HaD2, HaD3------Hampshire	Moderate	Moderate	Slight	Slight	Moderate	Southern red oak----	70	57	Yellow-poplar, loblolly pine.
						Loblolly pine-------	80	114	
						Eastern redcedar----	50	57	
HbD-------------Hawthorne	Slight	Slight	Moderate	Slight	Moderate	Southern red oak----	60	43	Loblolly pine, shortleaf pine.
						Shortleaf pine------	60	86	
						Mockernut hickory---	---	---	
HbF-------------Hawthorne	Moderate	Severe	Moderate	Slight	Moderate	Southern red oak----	60	43	Loblolly pine, shortleaf pine.
						Shortleaf pine------	60	86	
						Mockernut hickory---	---	---	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity			Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume*	
HcB: Hicks	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar	90	86	Yellow-poplar, loblolly pine, black walnut.
						Southern red oak	70	57	
						Shortleaf pine	70	114	
HcC2: Hicks	Moderate	Slight	Slight	Slight	Moderate	Yellow-poplar	90	86	Yellow-poplar, loblolly pine, black walnut.
						Southern red oak	70	57	
						Shortleaf pine	70	114	
HoB2: Holston	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar	86	86	Yellow-poplar, loblolly pine.
						Northern red oak	78	57	
						Shortleaf pine	69	114	
InC2: Inman	Slight	Moderate	Moderate	Slight	Moderate	Southern red oak	70	57	Loblolly pine, shortleaf pine, black locust.
						Shortleaf pine	70	114	
						Eastern redcedar	50	57	
InD2, InE2: Inman	Moderate	Moderate	Moderate	Slight	Moderate	Southern red oak	70	57	Loblolly pine, shortleaf pine, black locust.
						Shortleaf pine	70	114	
						Eastern redcedar	50	57	
Ld: Lindell	Slight	Slight	Moderate	Slight	Severe	Yellow-poplar	100	114	Yellow-poplar, black walnut, loblolly pine.
						Northern red oak	80	57	
						Loblolly pine	90	129	
						Sweetgum	90	100	
LoB: Lomond	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar	100	114	Yellow-poplar, black walnut, loblolly pine, shortleaf pine.
						Loblolly pine	90	129	
						White oak	80	57	
						Northern red oak	80	57	
						Black walnut	80	57	
						Shortleaf pine	80	129	
LoC2: Lomond	Moderate	Slight	Slight	Slight	Moderate	Yellow-poplar	100	114	Yellow-poplar, black walnut, loblolly pine, shortleaf pine.
						Loblolly pine	90	129	
						White oak	80	57	
						Northern red oak	80	57	
						Black walnut	80	57	
						Shortleaf pine	80	129	
MaB2, MaC2: Maury	Slight	Slight	Slight	Slight	Moderate	White ash	80	57	Black walnut, yellow-poplar, loblolly pine, eastern white pine, southern red oak.
						Black walnut	---	--	
						Black locust	---	--	
						Black cherry	---	--	
						Hackberry	---	--	
MmC2: Mimosa	Slight	Slight	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, eastern redcedar.
						Loblolly pine	80	114	
						Eastern redcedar	50	57	
MmD2: Mimosa	Moderate	Moderate	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, eastern redcedar.
						Loblolly pine	80	114	
						Eastern redcedar	50	57	
MrC2:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, eastern redcedar.
						Loblolly pine	80	114	
						Eastern redcedar	50	57	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
MrC2:									
Rock outcrop.									
MrE2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, eastern redcedar.
						Loblolly pine	80	114	
						Eastern redcedar	50	57	
Rock outcrop.									
NeB Nesbitt	Slight	Slight	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, black walnut, shortleaf pine.
						Loblolly pine	80	114	
						Shortleaf pine	70	114	
No Norene	Slight	Moderate	Severe	Slight	Severe	Sweetgum	90	100	Sweetgum, eastern cottonwood.
						Red maple	---	---	
						American elm	---	---	
						Water oak	80	72	
						Hackberry	---	---	
						Eastern cottonwood	95	114	
RoE:									
Rock outcrop.									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	Southern red oak	70	57	Loblolly pine, eastern redcedar.
						Loblolly pine	80	114	
						Eastern redcedar	50	57	
Gladeville	Slight	Moderate	Severe	Severe	Slight	Eastern redcedar	35	29	Eastern redcedar.
StB, StC2 Stiversville	Slight	Slight	Slight	Slight	Moderate	Southern red oak	75	57	Yellow-poplar, black walnut, black locust, loblolly pine.
						Yellow-poplar	88	86	
						Loblolly pine	75	100	
						Black walnut	---	---	
						Black locust	---	---	
						Eastern redcedar	50	57	
StD2, StE2 Stiversville	Moderate	Moderate	Slight	Slight	Moderate	Southern red oak	75	57	Yellow-poplar, loblolly pine, black locust.
						Yellow-poplar	88	86	
						Loblolly pine	75	100	
						Eastern redcedar	50	57	
						Black locust	---	---	
						Black walnut	---	---	
TaB2 Talbott	Slight	Slight	Slight	Slight	Moderate	Northern red oak	65	43	Loblolly pine, shortleaf pine, Virginia pine, eastern redcedar.
						Loblolly pine	80	114	
						Shortleaf pine	64	100	
						Eastern redcedar	46	57	
TaB3 Talbott	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine	70	86	Loblolly pine, Virginia pine, eastern redcedar.
						Virginia pine	60	86	
						Eastern redcedar	40	43	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Management concerns					Potential productivity			Trees to plant
	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume*	
TaC2------------ Talbott	Slight	Slight	Slight	Slight	Moderate	Northern red oak---- Loblolly pine------- Shortleaf pine------ Eastern redcedar----	65 80 64 46	43 114 100 57	Loblolly pine, shortleaf pine, Virginia pine, eastern redcedar.
TaC3------------ Talbott	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine------- Virginia pine------- Eastern redcedar----	70 60 40	86 86 43	Loblolly pine, Virginia pine, eastern redcedar.
TrC2------------ Talbott	Slight	Slight	Slight	Slight	Moderate	Northern red oak---- Loblolly pine------- Shortleaf pine------ Eastern redcedar----	65 80 64 46	43 114 100 57	Loblolly pine, shortleaf pine, Virginia pine, eastern redcedar.
Tu-------------- Tupelo	Slight	Moderate	Moderate	Slight	Severe	Yellow-poplar------- Loblolly pine------- Sweetgum------------ White oak----------- Southern red oak----	90 80 80 70 70	86 114 86 57 57	Loblolly pine, southern red oak, American sycamore, eastern cottonwood.
WaB2, WaC2------ Waynesboro	Slight	Slight	Slight	Slight	Moderate	Yellow-poplar------- Southern red oak---- White oak----------- Loblolly pine-------	90 70 70 80	86 57 57 114	Yellow-poplar, shortleaf pine, loblolly pine, black walnut.
WaD2------------ Waynesboro	Moderate	Moderate	Slight	Slight	Moderate	Yellow-poplar------- Southern red oak---- White oak----------- Loblolly pine-------	90 70 70 80	86 57 57 114	Yellow-poplar, shortleaf pine, loblolly pine, black walnut.
Wo-------------- Woodmont	Slight	Moderate	Slight	Slight	Moderate	Yellow-poplar------- Loblolly pine------- Sweetgum------------ Shortleaf pine------ Willow oak----------	90 85 80 60 80	86 114 86 86 72	Loblolly pine, yellow-poplar, shortleaf pine.

* Volume is the yield in cubic feet per acre per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

TABLE 8.--RECREATIONAL DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ag: Agee	Severe: flooding, wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.
AnC. Arents					
ArB: Armour	Slight	Slight	Moderate: slope.	Slight	Slight.
ArC2: Armour	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
ArD2: Armour	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
At: Arrington	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
BaD:					
Barfield	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Slight	Severe: thin layer.
Rock outcrop.					
BeB2: Bewleyville	Slight	Slight	Moderate: slope.	Slight	Slight.
BeC2: Bewleyville	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
BrB2: Bradyville	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones, percs slowly.	Slight	Slight.
BrC2: Bradyville	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
BvB2: Bradyville	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones, percs slowly.	Slight	Slight.
ByB: Byler	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Slight.
ByC2: Byler	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CaB------------------- Capshaw	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight----------	Slight.
DeE, DeF-------------- Dellrose	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
DoB------------------- Dowellton	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Ea-------------------- Eagleville	Severe: flooding, wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, flooding, depth to rock.
Eg-------------------- Egam	Severe: flooding.	Moderate: percs slowly.	Moderate: flooding, percs slowly.	Slight----------	Moderate: flooding.
GaC: Gladeville-----------	Severe: small stones.	Severe: small stones.	Severe: large stones, slope, small stones.	Severe: small stones.	Severe: small stones, depth to rock, droughty.
Rock outcrop.					
HaB2------------------ Hampshire	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Severe: erodes easily.	Slight.
HaC2------------------ Hampshire	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
HaD2------------------ Hampshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
HaD3------------------ Hampshire	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
HbD------------------- Hawthorne	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight----------	Moderate: small stones, large stones, slope.
HbF------------------- Hawthorne	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
HcB------------------- Hicks	Slight----------	Slight----------	Moderate: slope.	Slight----------	Slight.
HcC2------------------ Hicks	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
HoB2------------------ Holston	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
InC2: Inman	Moderate: slope, large stones, percs slowly.	Moderate: slope, large stones, percs slowly.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones.
InD2: Inman	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: large stones, slope.	Severe: large stones, slope.
InE2: Inman	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Severe: slope.	Severe: large stones, slope.
Ld: Lindell	Severe: flooding.	Moderate: wetness.	Moderate: small stones, wetness.	Slight	Moderate: flooding.
LoB: Lomond	Slight	Slight	Moderate: slope.	Severe: erodes easily.	Slight.
LoC2: Lomond	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
MaB2: Maury	Slight	Slight	Moderate: slope.	Slight	Slight.
MaC2: Maury	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
MmC2: Mimosa	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
MmD2: Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
MrC2: Mimosa	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
MrC2: Rock outcrop.					
MrE2: Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
MrE2: Rock outcrop.					
NeB: Nesbitt	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Slight.
No: Norene	Severe: flooding, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Pt: Pits.					

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Pt: Dumps.					
RoE: Rock outcrop.					
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
Gladeville	Severe: slope, small stones.	Severe: slope, small stones.	Severe: large stones, slope, small stones.	Severe: slope, small stones.	Severe: small stones, slope, thin layer.
StB Stiversville	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
StC2 Stiversville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
StD2 Stiversville	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
StE2 Stiversville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TaB2, TaB3 Talbott	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Moderate: depth to rock.
TaC2, TaC3, TrC2 Talbott	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: slope, depth to rock.
Tu Tupelo	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
WaB2 Waynesboro	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
WaC2 Waynesboro	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
WaD2 Waynesboro	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Wo Woodmont	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.

TABLE 9.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
Ag: Agee	Fair	Fair	Fair	Good	Fair	Good	Good	Fair	Good	Good.
AnC. Arents										
ArB: Armour	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ArC2: Armour	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ArD2: Armour	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
At: Arrington	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BaD:										
Barfield	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
BeB2: Bewleyville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BeC2: Bewleyville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BrB2: Bradyville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BrC2: Bradyville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BvB2: Bradyville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ByB, ByC2: Byler	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
CaB: Capshaw	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
DeE: Dellrose	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
DeF: Dellrose	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
DoB: Dowellton	Poor	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Ea: Eagleville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Eg----------------- Egam	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
GaC:										
Gladeville--------	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
Rock outcrop.										
HaB2--------------- Hampshire	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HaC2--------------- Hampshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HaD2, HaD3--------- Hampshire	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
HbD---------------- Hawthorne	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
HbF---------------- Hawthorne	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
HcB---------------- Hicks	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HcC2--------------- Hicks	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
HoB2--------------- Holston	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
InC2, InD2--------- Inman	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
InE2--------------- Inman	Very poor.	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Ld----------------- Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
LoB---------------- Lomond	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LoC2--------------- Lomond	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MaB2--------------- Maury	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
MaC2--------------- Maury	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmC2--------------- Mimosa	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MmD2--------------- Mimosa	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
MrC2:										
Mimosa	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Rock outcrop.										
MrE2:										
Mimosa	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Rock outcrop.										
NeB Nesbitt	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
No Norene	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Pt:										
Pits.										
Dumps.										
RoE:										
Rock outcrop.										
Mimosa	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Gladeville	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
StB Stiversville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
StC2 Stiversville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
StD2, StE2 Stiversville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
TaB2 Talbott	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
TaB3 Talbott	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
TaC2 Talbott	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
TaC3 Talbott	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
TrC2 Talbott	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Tu Tupelo	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
WaB2: Waynesboro	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WaC2: Waynesboro	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WaD2: Waynesboro	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Wo: Woodmont	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

TABLE 10.--BUILDING SITE DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Ag: Agee	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: shrink-swell, low strength, wetness.	Severe: wetness.
AnC. Arents						
ArB: Armour	Slight	Slight	Slight	Slight	Severe: low strength.	Slight.
ArC2: Armour	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
ArD2: Armour	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
At: Arrington	Moderate: wetness, flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
BaD:						
Barfield	Severe: depth to rock.	Severe: shrink-swell, depth to rock.	Severe: depth to rock, shrink-swell.	Severe: shrink-swell, slope, depth to rock.	Severe: depth to rock, low strength.	Severe: thin layer.
Rock outcrop.						
BeB2: Bewleyville	Moderate: too clayey.	Slight	Moderate: shrink-swell.	Slight	Severe: low strength.	Slight.
BeC2: Bewleyville	Moderate: slope, too clayey.	Moderate: slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
BrB2: Bradyville	Moderate: depth to rock, too clayey.	Moderate: shrink-swell.	Moderate: depth to rock, shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
BrC2: Bradyville	Moderate: depth to rock, too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: depth to rock, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
BvB2: Bradyville	Moderate: depth to rock, too clayey.	Moderate: shrink-swell.	Moderate: depth to rock, shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
ByB: Byler	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Slight.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
ByC2--------------- Byler	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: low strength, wetness, slope.	Moderate: slope.
CaB---------------- Capshaw	Moderate: depth to rock, too clayey, wetness.	Moderate: shrink-swell.	Moderate: wetness, depth to rock, shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
DeE, DeF----------- Dellrose	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
DoB---------------- Dowellton	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, wetness, shrink-swell.	Severe: wetness.
Ea----------------- Eagleville	Severe: depth to rock, wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, shrink-swell.	Severe: low strength, flooding, shrink-swell.	Moderate: wetness, flooding, depth to rock.
Eg----------------- Egam	Moderate: too clayey, wetness, flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: low strength, flooding.	Moderate: flooding.
GaC:						
Gladeville--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: small stones, depth to rock, droughty.
Rock outcrop.						
HaB2--------------- Hampshire	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
HaC2--------------- Hampshire	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
HaD2, HaD3--------- Hampshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
HbD---------------- Hawthorne	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: slope.	Moderate: small stones, large stones, slope.
HbF---------------- Hawthorne	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
HcB---------------- Hicks	Slight----------	Slight----------	Slight----------	Slight----------	Severe: low strength.	Slight.
HcC2--------------- Hicks	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: slope.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HoB2: Holston	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
InC2: Inman	Moderate: depth to rock, too clayey, slope.	Moderate: shrink-swell, slope, large stones.	Moderate: depth to rock, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Severe: large stones.
InD2, InE2: Inman	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: large stones, slope.
Ld: Lindell	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
LoB: Lomond	Moderate: too clayey.	Slight	Slight	Slight	Severe: low strength.	Slight.
LoC2: Lomond	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
MaB2: Maury	Moderate: too clayey.	Slight	Slight	Slight	Severe: low strength.	Slight.
MaC2: Maury	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
MmC2: Mimosa	Moderate: depth to rock, too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: depth to rock, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
MmD2: Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
MrC2:						
Mimosa	Moderate: depth to rock, too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: depth to rock, slope, shrink-swell.	Severe: slope.	Severe: low strength.	Moderate: slope.
Rock outcrop.						
MrE2:						
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Rock outcrop.						
NeB: Nesbitt	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: low strength.	Slight.
No: Norene	Severe: ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: low strength, ponding.	Severe: ponding.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Pt: Pits.						
Dumps.						
RoE: Rock outcrop.						
Mimosa	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
Gladeville	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: small stones, slope, thin layer.
StB: Stiversville	Slight	Slight	Slight	Slight	Slight	Slight.
StC2: Stiversville	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
StD2, StE2: Stiversville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TaB2, TaB3: Talbott	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: depth to rock.	Moderate: shrink-swell, depth to rock.	Severe: low strength.	Moderate: depth to rock.
TaC2, TaC3, TrC2: Talbott	Severe: depth to rock.	Moderate: shrink-swell, slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Severe: low strength.	Moderate: slope, depth to rock.
Tu: Tupelo	Severe: wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
WaB2: Waynesboro	Moderate: too clayey.	Slight	Slight	Slight	Moderate: low strength.	Slight.
WaC2: Waynesboro	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.	Moderate: slope.
WaD2: Waynesboro	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Wo: Woodmont	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: low strength.	Moderate: wetness.

TABLE 11.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Ag: Agee	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
AnC. Arents					
ArB: Armour	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey, thin layer.
ArC2: Armour	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope, thin layer.
ArD2: Armour	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
At: Arrington	Severe: flooding.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Good.
BaD:					
Barfield	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: area reclaim, too clayey, hard to pack.
Rock outcrop.					
BeB2: Bewleyville	Moderate: percs slowly.	Moderate: seepage, slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
BeC2: Bewleyville	Moderate: percs slowly, slope.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
BrB2: Bradyville	Severe: percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
BrC2: Bradyville	Severe: percs slowly.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
BvB2: Bradyville	Severe: percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
ByB: Byler	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
ByC2: Byler	Severe: wetness, percs slowly.	Severe: slope, wetness.	Moderate: wetness, slope, too clayey.	Moderate: wetness, slope.	Fair: too clayey, slope, wetness.
CaB: Capshaw	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Moderate: depth to rock, wetness.	Poor: too clayey, hard to pack.
DeE, DeF: Dellrose	Severe: slope.	Severe: seepage, slope.	Severe: slope.	Severe: seepage, slope.	Poor: small stones, slope.
DoB: Dowellton	Severe: wetness, percs slowly.	Moderate: depth to rock, slope.	Severe: depth to rock, wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
Ea: Eagleville	Severe: flooding, depth to rock, wetness.	Severe: depth to rock, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, too clayey, hard to pack.
Eg: Egam	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack.
GaC:					
Gladeville	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: depth to rock, small stones.
Rock outcrop.					
HaB2: Hampshire	Severe: slope, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock.	Poor: too clayey, hard to pack.
HaC2: Hampshire	Severe: slope, percs slowly.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
HaD2, HaD3: Hampshire	Severe: slope, percs slowly.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
HbD: Hawthorne	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage.	Severe: depth to rock, seepage.	Poor: depth to rock, small stones.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
HbF: Hawthorne	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
HcB: Hicks	Moderate: depth to rock, percs slowly.	Moderate: seepage, depth to rock, slope.	Severe: depth to rock.	Moderate: depth to rock.	Poor: thin layer.
HcC2: Hicks	Moderate: depth to rock, percs slowly, slope.	Severe: slope.	Severe: depth to rock.	Moderate: depth to rock, slope.	Poor: thin layer.
HoB2: Holston	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey, small stones.
InC2: Inman	Severe: depth to rock, percs slowly.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.
InD2, InE2: Inman	Severe: depth to rock, percs slowly, slope.	Severe: depth to rock, slope, large stones.	Severe: depth to rock, slope, too clayey.	Severe: depth to rock, slope.	Poor: depth to rock, too clayey, hard to pack.
Ld: Lindell	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, small stones, wetness.
LoB: Lomond	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey, thin layer.
LoC2: Lomond	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope, thin layer.
MaB2: Maury	Slight	Severe: seepage.	Severe: too clayey.	Severe: seepage.	Poor: too clayey, hard to pack.
MaC2: Maury	Moderate: slope.	Severe: seepage, slope.	Severe: too clayey.	Severe: seepage.	Poor: too clayey, hard to pack.
MmC2: Mimosa	Severe: percs slowly.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
MmD2: Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MrC2:					
Mimosa	Severe: percs slowly.	Severe: slope.	Severe: depth to rock, too clayey.	Moderate: depth to rock, slope.	Poor: too clayey, hard to pack.
Rock outcrop.					
MrE2:					
Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Rock outcrop.					
NeB Nesbitt	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
No Norene	Severe: ponding, percs slowly.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Poor: ponding.
Pt:					
Pits.					
Dumps.					
RoE:					
Rock outcrop.					
Mimosa	Severe: percs slowly, slope.	Severe: slope.	Severe: depth to rock, slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
Gladeville	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, slope, small stones.
StB Stiversville	Moderate: depth to rock.	Severe: seepage.	Severe: depth to rock, seepage.	Severe: seepage.	Fair: depth to rock, too clayey.
StC2 Stiversville	Moderate: depth to rock, slope.	Severe: seepage, slope.	Severe: depth to rock, seepage.	Severe: seepage.	Fair: depth to rock, too clayey, slope.
StD2, StE2 Stiversville	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: slope.
TaB2, TaB3 Talbott	Severe: depth to rock, percs slowly.	Severe: depth to rock.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
TaC2, TaC3, TrC2---- Talbott	Severe: depth to rock, percs slowly.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.
Tu----------------- Tupelo	Severe: wetness, percs slowly.	Slight-----------	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
WaB2--------------- Waynesboro	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight-----------	Fair: too clayey, hard to pack.
WaC2--------------- Waynesboro	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
WaD2--------------- Waynesboro	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Wo----------------- Woodmont	Severe: wetness, percs slowly.	Slight-----------	Severe: wetness.	Severe: wetness.	Poor: wetness.

TABLE 12.--CONSTRUCTION MATERIALS

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Ag: Agee	Poor: shrink-swell, low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
AnC. Arents				
ArB: Armour	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
ArC2: Armour	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones, slope.
ArD2: Armour	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
At: Arrington	Fair: low strength, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Good.
BaD:				
Barfield	Poor: area reclaim, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, too clayey, small stones.
Rock outcrop.				
BeB2: Bewleyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer, too clayey.
BeC2: Bewleyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, thin layer, slope.
BrB2, BrC2, BvB2: Bradyville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
ByB: Byler	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
ByC2: Byler	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
CaB: Capshaw	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
DeE, DeF: Dellrose	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
DoB: Dowellton	Poor: low strength, wetness, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
Ea: Eagleville	Poor: depth to rock, low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Eg: Egam	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, thin layer.
GaC:				
Gladeville	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.
Rock outcrop.				
HaB2, HaC2: Hampshire	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, area reclaim.
HaD2, HaD3: Hampshire	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, area reclaim, slope.
HbD: Hawthorne	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
HbF: Hawthorne	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
HcB, HcC2: Hicks	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim.
HoB2: Holston	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
InC2: Inman	Poor: depth to rock, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, large stones.
InD2: Inman	Poor: depth to rock, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, large stones, slope.
InE2: Inman	Poor: depth to rock, low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, large stones, slope.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Ld-------------------- Lindell	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
LoB------------------- Lomond	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
LoC2------------------ Lomond	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, slope.
MaB2------------------ Maury	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, thin layer.
MaC2------------------ Maury	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, slope.
MmC2------------------ Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
MmD2------------------ Mimosa	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
MrC2:				
Mimosa---------------	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Rock outcrop.				
MrE2:				
Mimosa---------------	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Rock outcrop.				
NeB------------------- Nesbitt	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
No-------------------- Norene	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Pt:				
Pits.				
Dumps.				
RoE:				
Rock outcrop.				
Mimosa---------------	Poor: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
RoE: Gladeville	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
StB, StC2 Stiversville	Fair: depth to rock, thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
StD2 Stiversville	Fair: depth to rock, thin layer, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
StE2 Stiversville	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
TaB2, TaB3, TaC2, TaC3, TrC2 Talbott	Poor: depth to rock, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Tu Tupelo	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
WaB2, WaC2 Waynesboro	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
WaD2 Waynesboro	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Wo Woodmont	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Slight.

TABLE 13.--WATER MANAGEMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ag: Agee	Slight	Severe: hard to pack, wetness.	Percs slowly	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
AnC. Arents						
ArB: Armour	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
ArC2, ArD2: Armour	Severe: slope.	Moderate: piping.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
At: Arrington	Moderate: seepage.	Severe: piping.	Deep to water	Erodes easily, flooding.	Erodes easily	Erodes easily.
BaD:						
Barfield	Severe: depth to rock, slope.	Severe: thin layer, hard to pack.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Rock outcrop.						
BeB2: Bewleyville	Moderate: seepage, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
BeC2: Bewleyville	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
BrB2: Bradyville	Moderate: depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
BrC2: Bradyville	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
BvB2: Bradyville	Moderate: depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
ByB: Byler	Moderate: seepage, slope.	Severe: piping.	Percs slowly, slope.	Wetness, percs slowly, rooting depth.	Erodes easily, wetness.	Erodes easily, rooting depth.
ByC2: Byler	Severe: slope.	Severe: piping.	Percs slowly, slope.	Wetness, percs slowly, rooting depth.	Slope, erodes easily, wetness.	Slope, erodes easily, rooting depth.
CaB: Capshaw	Moderate: depth to rock, slope.	Severe: hard to pack.	Deep to water	Percs slowly, slope, erodes easily.	Erodes easily, percs slowly.	Erodes easily, percs slowly.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
DeE, DeF: Dellrose	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
DoB: Dowellton	Moderate: depth to rock.	Severe: hard to pack, wetness.	Percs slowly, slope.	Wetness, percs slowly, slope.	Wetness, percs slowly.	Wetness, percs slowly.
Ea: Eagleville	Moderate: depth to rock.	Severe: hard to pack.	Percs slowly, depth to rock, flooding.	Wetness, percs slowly.	Depth to rock, wetness, percs slowly.	Wetness, depth to rock, percs slowly.
Eg: Egam	Slight	Severe: hard to pack.	Deep to water	Flooding	Favorable	Favorable.
GaC:						
Gladeville	Severe: depth to rock.	Severe: thin layer.	Deep to water	Droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
HaB2: Hampshire	Moderate: seepage, depth to rock, slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
HaC2, HaD2: Hampshire	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
HaD3: Hampshire	Severe: slope.	Severe: hard to pack.	Deep to water	Slope	Slope	Slope.
HbD, HbF: Hawthorne	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty, depth to rock.	Slope, depth to rock.	Slope, droughty, depth to rock.
HcB: Hicks	Moderate: seepage, depth to rock, slope.	Severe: piping.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.
HcC2: Hicks	Severe: slope.	Severe: piping.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
HoB2: Holston	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
InC2, InD2, InE2: Inman	Severe: slope.	Severe: hard to pack, large stones.	Deep to water	Slope, large stones, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Ld: Lindell	Moderate: seepage.	Severe: piping.	Flooding	Wetness, flooding.	Wetness	Favorable.
LoB: Lomond	Moderate: seepage, slope.	Moderate: thin layer, piping.	Deep to water	Slope, erodes easily.	Erodes easily	Erodes easily.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
LoC2: Lomond	Severe: slope.	Moderate: thin layer, piping.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
MaB2: Maury	Severe: seepage.	Severe: hard to pack.	Deep to water	Slope	Favorable	Favorable.
MaC2: Maury	Severe: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Slope	Slope.
MmC2, MmD2: Mimosa	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
MrC2, MrE2:						
Mimosa	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
Rock outcrop.						
NeB: Nesbitt	Moderate: seepage, slope.	Moderate: thin layer, piping, wetness.	Slope	Wetness, slope, erodes easily.	Erodes easily, wetness.	Erodes easily.
No: Norene	Moderate: seepage.	Severe: thin layer, ponding.	Ponding	Ponding, erodes easily.	Erodes easily, ponding.	Wetness, erodes easily.
Pt:						
Pits.						
Dumps.						
RoE:						
Rock outcrop.						
Mimosa	Severe: slope.	Severe: hard to pack.	Deep to water	Slope, erodes easily.	Slope, erodes easily.	Slope, erodes easily.
Gladeville	Severe: depth to rock, slope.	Severe: thin layer.	Deep to water	Droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
StB: Stiversville	Severe: seepage.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
StC2, StD2, StE2: Stiversville	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
TaB2: Talbott	Moderate: depth to rock, slope.	Severe: hard to pack.	Deep to water	Depth to rock, slope.	Depth to rock, erodes easily.	Erodes easily, depth to rock.
TaB3: Talbott	Moderate: depth to rock, slope.	Severe: hard to pack.	Deep to water	Depth to rock, slope.	Depth to rock	Depth to rock.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
TaC2-------------- Talbott	Severe: slope.	Severe: hard to pack.	Deep to water	Depth to rock, slope.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
TaC3-------------- Talbott	Severe: slope.	Severe: hard to pack.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
TrC2-------------- Talbott	Severe: slope.	Severe: hard to pack.	Deep to water	Depth to rock, slope.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Tu---------------- Tupelo	Slight---------	Severe: hard to pack, wetness.	Percs slowly---	Wetness, percs slowly, erodes easily.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
WaB2-------------- Waynesboro	Moderate: seepage, slope.	Severe: piping, hard to pack.	Deep to water	Slope----------	Favorable------	Favorable.
WaC2, WaD2-------- Waynesboro	Severe: slope.	Severe: piping, hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
Wo---------------- Woodmont	Slight---------	Moderate: piping, wetness.	Percs slowly---	Wetness, percs slowly, rooting depth.	Erodes easily, wetness, rooting depth.	Wetness, erodes easily, rooting depth.

TABLE 14.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
Ag--------------- Agee	0-9	Silty clay loam	CL, CH	A-6, A-7	0	95-100	95-100	95-100	85-95	35-55	20-35
	9-60	Silty clay, clay	CH	A-7	0	95-100	95-100	95-100	85-95	50-75	30-50
AnC. Arents											
ArB-------------- Armour	0-9	Silt loam--------	CL-ML, CL, ML	A-4	0	90-100	80-100	75-95	70-90	25-35	5-10
	9-62	Silty clay loam, silt loam.	CL	A-4, A-6	0	90-100	80-100	75-95	70-95	30-40	8-18
ArC2, ArD2------- Armour	0-7	Silt loam--------	CL-ML, CL, ML	A-4	0	90-100	80-100	75-95	70-90	25-35	5-10
	7-62	Silty clay loam, silt loam.	CL	A-4, A-6	0	90-100	80-100	75-95	70-95	30-40	8-18
At--------------- Arrington	0-32	Silt loam--------	CL, ML, CL-ML	A-4, A-6	0	100	90-100	85-95	75-95	25-40	4-15
	32-62	Silt loam, silty clay loam.	CL, ML, CL-ML	A-4, A-6	0-3	95-100	90-100	85-100	75-95	25-40	4-15
BaD: Barfield--------	0-5	Silty clay loam	CL, CH, MH	A-6, A-7	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	5-16	Silty clay, clay, silty clay loam.	CH, MH, CL	A-7, A-6	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
BeB2, BeC2------- Bewleyville	0-10	Silt loam--------	ML, CL-ML	A-4	0	100	95-100	95-100	85-100	20-30	2-7
	10-45	Silty clay loam, silt loam.	CL	A-6, A-7	0	95-100	95-100	90-100	85-100	30-45	11-22
	45-60	Clay, clay loam, silty clay loam.	CL, ML, MH, CH	A-6, A-7	0-5	75-100	75-100	70-95	60-95	35-65	12-32
BrB2, BrC2------- Bradyville	0-5	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	5-19	Silty clay loam	CL	A-7, A-6	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	19-47	Silty clay, clay	CH, MH	A-7	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	47-52	Silty clay, clay	CH, MH	A-7	0-10	80-100	75-100	65-90	60-85	52-70	26-40
	52	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
BvB2------------- Bradyville	0-5	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	5-19	Silty clay loam	CL	A-7, A-6	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	19-40	Silty clay, clay	CH, MH	A-7	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	40-45	Silty clay, clay	CH, MH	A-7	0-10	80-100	75-100	65-90	60-85	52-70	26-40
	45	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
ByB-------------- Byler	0-9	Silt loam--------	CL-ML, CL, ML	A-4	0	100	95-100	85-95	75-90	20-30	3-10
	9-28	Silt loam, silty clay loam.	CL-ML, CL, ML	A-4, A-6	0	100	95-100	85-100	85-95	20-40	3-15
	28-41	Silty clay loam, silt loam.	CL, ML	A-6, A-4, A-7	0	100	90-100	85-100	80-95	30-45	8-20
	41-62	Clay, silty clay	MH, ML	A-7	0-5	95-100	90-100	80-95	75-90	40-60	12-25

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
ByC2-------------- Byler	0-6	Silt loam--------	CL-ML, CL, ML	A-4	0	100	95-100	85-95	75-90	20-30	3-10
	6-25	Silt loam, silty clay loam.	CL-ML, CL, ML	A-4, A-6	0	100	95-100	85-100	85-95	20-40	3-15
	25-40	Silty clay loam, silt loam.	CL, ML	A-6, A-4, A-7	0	100	90-100	85-100	80-95	30-45	8-20
	40-62	Clay, silty clay	MH, ML	A-7	0-5	95-100	90-100	80-95	75-90	40-60	12-25
CaB--------------- Capshaw	0-7	Silt loam--------	ML, CL, CL-ML	A-4	0	90-100	85-100	80-95	75-85	18-30	3-10
	7-12	Silty clay loam, silty clay, silt loam.	ML, CL	A-6, A-7	0	90-100	85-100	80-95	75-85	30-45	11-20
	12-42	Clay, silty clay, silty clay loam.	CL, CH, MH	A-7	0	90-100	85-100	80-95	75-90	41-68	18-36
	42-50	Clay, silty clay loam, clay loam.	MH, CH, CL	A-7	0-3	85-100	80-100	75-95	70-90	41-68	18-36
	50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
DeE, DeF---------- Dellrose	0-13	Cherty silt loam	CL-ML, SC, CL, GC	A-4, A-6	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	13-68	Cherty silty clay loam, cherty silt loam.	ML, CL, GC, SC	A-4, A-6, A-7	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DoB--------------- Dowellton	0-10	Silt loam, silty clay loam.	CL-ML, CL, ML	A-4, A-6	0	100	95-100	90-100	85-96	25-40	6-15
	10-15	Silty clay, clay	CL, CH, MH	A-7	0	100	95-100	90-100	85-100	45-70	22-40
	15-50	Clay-------------	CH, MH	A-7	0	100	95-100	90-100	85-100	55-70	28-40
	50	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Ea---------------- Eagleville	0-13	Silty clay loam	CL, CH	A-6, A-7	0	80-100	75-100	70-100	65-95	35-55	15-28
	13-31	Clay, silty clay, silty clay loam.	CH	A-7	0	80-100	75-100	70-100	65-95	52-70	28-43
	31	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Eg---------------- Egam	0-14	Silty clay loam	CL, ML, CL-ML	A-6, A-7, A-4	0	95-100	95-100	85-100	75-95	21-45	4-20
	14-62	Silty clay, silty clay loam, clay.	CL, MH, CH	A-7, A-6	0	95-100	95-100	90-100	85-95	38-60	15-30
GaC: Gladeville-------	0-9	Flaggy silty clay loam, very flaggy clay.	GC, CL, CH	A-2, A-6, A-7	5-20	40-65	30-55	25-55	20-55	38-55	20-34
	9	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
HaB2, HaC2, HaD2-Hampshire	0-6	Silt loam	CL-ML, CL, ML	A-4, A-6	0	95-100	95-100	90-100	80-90	20-40	3-20
	6-40	Clay, silty clay loam, silty clay.	CL, CH, MH	A-7	0-3	80-100	75-100	65-95	55-85	45-70	21-38
	40-50	Very channery loam, very channery clay loam, very channery silty clay loam.	CL, GC, SC, GM	A-6, A-7, A-2	10-50	55-75	50-75	40-70	30-60	30-48	11-25
	50-65	Weathered bedrock	---	---	---	---	---	---	---	---	---
HaD3-Hampshire	0-6	Silty clay loam	CL, ML, MH, CH	A-7	0	95-100	95-100	90-100	85-95	40-55	16-28
	6-35	Clay, silty clay loam, silty clay.	CL, CH, MH	A-7	0-3	80-100	75-100	65-95	55-85	45-70	21-38
	35-45	Very channery loam, very channery clay loam, very channery silty clay loam.	CL, GC, SC, GM	A-6, A-7, A-2	10-50	55-75	50-75	40-70	30-60	30-48	11-25
	45-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
HbD, HbF-Hawthorne	0-8	Cherty silt loam	ML, CL-ML, GM, GM-GC	A-4	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	8-28	Very cherty silt loam, very channery silt loam, very channery silty clay loam.	ML, CL-ML, GM, GM-GC	A-2, A-4, A-6	0-15	55-75	45-70	40-65	30-60	20-35	3-12
	28-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
HcB, HcC2-Hicks	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	95-100	95-100	85-100	75-90	20-30	4-12
	7-25	Silty clay loam, silt loam.	CL, ML	A-4, A-6, A-7	0	95-100	95-100	90-100	85-95	28-42	8-18
	25-38	Clay loam, silty clay loam.	CL, CH, MH, ML	A-6, A-7	0-20	95-100	85-95	80-90	60-80	35-60	13-32
	38-45	Channery clay loam, very channery loam, channery silty clay loam.	CL, MH, GC, SC	A-4, A-6, A-7	20-50	65-100	60-90	55-85	40-75	25-55	8-25
	45-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
HoB2-Holston	0-6	Loam	ML, CL-ML, SM, SM-SC	A-4, A-2	0-5	80-100	75-100	65-100	30-75	<22	NP-6
	6-60	Loam, clay loam, sandy clay loam.	ML, CL-ML, SM, SM-SC	A-4, A-2	0-5	80-100	75-100	50-100	30-80	21-33	3-10
InC2, InD2, InE2-Inman	0-6	Flaggy silty clay loam.	CL	A-6, A-7	20-50	95-100	90-100	85-95	70-90	28-45	10-20
	6-25	Flaggy silty clay, flaggy clay, flaggy silty clay loam.	CH, CL, MH	A-6, A-7	20-50	95-100	90-100	85-95	75-95	38-60	16-30
	25-72	Weathered bedrock	---	---	---	---	---	---	---	---	---

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments > 3 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
Ld-------------- Lindell	0-6	Silt loam--------	ML, CL, CL-ML	A-4	0	90-100	75-100	65-90	55-80	18-30	3-10
	6-60	Silt loam, silty clay loam, clay loam.	CL, CL-ML	A-4, A-6	0-2	90-100	75-95	65-90	55-80	23-39	6-18
LoB, LoC2-------- Lomond	0-8	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0	100	95-100	80-95	70-90	20-35	4-13
	8-41	Silty clay loam, silt loam.	CL	A-6, A-7	0	100	95-100	90-100	85-95	30-45	11-23
	41-70	Silty clay loam, clay, silty clay.	CL	A-6, A-7	0	100	90-100	85-95	80-95	35-49	15-26
MaB2, MaC2------- Maury	0-6	Silt loam--------	CL-ML, ML	A-4	0	100	95-100	90-100	80-100	25-35	4-10
	6-18	Silty clay loam	ML, CL	A-6, A-7, A-4	0	95-100	95-100	85-100	80-100	30-50	8-26
	18-75	Silty clay loam, silty clay, clay.	CL, MH, CH	A-7, A-6	0	95-100	90-100	85-100	80-100	35-60	15-30
MmC2, MmD2------- Mimosa	0-7	Silty clay loam	CL, ML	A-4, A-6, A-7	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-13	Silty clay loam, silty clay, clay.	ML, CL, MH, CH	A-7	0	95-100	90-100	85-95	80-90	45-60	18-28
	13-55	Clay, silty clay	CH, MH	A-7	0	95-100	90-100	85-95	80-95	51-65	25-35
	55	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
MrC2:											
Mimosa----------	0-7	Silt loam--------	CL, ML	A-4, A-6, A-7	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-11	Silty clay loam, silty clay, clay.	ML, CL, MH, CH	A-7	0	95-100	90-100	85-95	80-90	45-60	18-28
	11-52	Clay, silty clay	CH, MH	A-7	0	95-100	90-100	85-95	80-95	51-65	25-35
	52	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
MrE2:											
Mimosa----------	0-6	Silt loam--------	CL, ML	A-4, A-6, A-7	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-10	Silty clay loam, silty clay, clay.	ML, CL, MH, CH	A-7	0	95-100	90-100	85-95	80-90	45-60	18-28
	10-46	Clay, silty clay	CH, MH	A-7	0	95-100	90-100	85-95	80-95	51-65	25-35
	46	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
NeB-------------- Nesbitt	0-7	Silt loam--------	ML, CL, CL-ML	A-4	0	100	95-100	80-95	75-90	15-30	3-10
	7-27	Silt loam, silty clay loam.	CL, ML	A-6, A-7	0	100	95-100	85-100	85-95	30-45	10-20
	27-40	Silt loam, silty clay loam.	CL, ML	A-6, A-7	0	100	95-100	80-95	75-95	30-45	10-20
	40-60	Clay, silty clay	MH, CH, CL	A-7	0	95-100	80-100	75-95	70-90	45-65	20-34

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification Unified	Classification AASHTO	Frag-ments > 3 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
No---------------- Norene	0-15	Silt loam--------	ML, CL, CL-ML	A-4, A-6	0	95-100	90-100	80-100	70-95	25-35	4-12
	15-42	Silty clay loam, silt loam.	CL	A-6, A-7	0	95-100	90-100	85-100	75-95	30-43	11-20
	42-60	Silty clay loam, silty clay, clay.	CL, CH, MH	A-7, A-6	0	95-100	90-100	85-100	75-95	38-60	15-32
Pt: Pits.											
Dumps.											
RoE: Rock outcrop.											
Mimosa----------	0-6	Silt loam--------	CL, ML	A-4, A-6, A-7	0	80-100	75-100	65-95	60-90	25-45	7-20
	6-10	Silty clay loam, silty clay, clay.	ML, CL, MH, CH	A-7	0	95-100	90-100	85-95	80-90	45-60	18-28
	10-46	Clay, silty clay	CH, MH	A-7	0	95-100	90-100	85-95	80-95	51-65	25-35
	46	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Gladeville------	0-9	Flaggy silty clay loam, very flaggy clay.	GC, CL, CH	A-2, A-6, A-7	5-20	40-65	30-55	25-55	20-55	38-55	20-34
	9	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
StB-------------- Stiversville	0-12	Silt loam--------	ML, CL, CL-ML	A-4	0-2	80-100	75-100	65-90	55-80	<30	2-10
	12-50	Clay loam, loam, silt loam.	CL, CL-ML, ML	A-4, A-6	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	50-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
StC2, StD2, StE2- Stiversville	0-12	Silt loam--------	ML, CL, CL-ML	A-4	0-2	80-100	75-100	65-90	55-80	<30	2-10
	12-45	Clay loam, loam, silt loam, channery clay loam.	CL, CL-ML, ML	A-4, A-6	0-5	80-100	75-100	70-95	51-85	20-40	3-15
	45-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
TaB2------------- Talbott	0-5	Silt loam--------	CL, ML	A-4, A-6	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	5-30	Clay, silty clay	CL, MH, CH	A-7	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
TaB3------------- Talbott	0-5	Silty clay loam	CL, CH, ML, MH	A-6, A-7	0-5	95-100	90-100	85-95	80-95	35-60	12-32
	5-26	Clay, silty clay	CL, MH, CH	A-7	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
TaC2------------- Talbott	0-5	Silt loam--------	CL, ML	A-4, A-6	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	5-30	Clay, silty clay	CL, MH, CH	A-7	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
TaC3------------- Talbott	0-5	Silty clay loam	CL, CH, ML, MH	A-6, A-7	0-5	95-100	90-100	85-95	80-95	35-60	12-32
	5-26	Clay, silty clay	CL, MH, CH	A-7	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	26	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
TrC2------------- Talbott	0-5	Silt loam--------	CL, ML	A-4, A-6	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	5-30	Clay, silty clay	CL, MH, CH	A-7	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Tu--------------- Tupelo	0-10	Silt loam--------	CL-ML, CL, ML	A-4	0	95-100	90-100	80-100	70-90	20-35	3-10
	10-14	Silty clay loam, silty clay.	CL, CH	A-6, A-7	0	95-100	95-100	90-100	85-95	30-55	11-29
	14-60	Clay, silty clay	CH, CL	A-7	0	95-100	95-100	90-100	85-100	41-70	20-42
WaB2, WaC2------- Waynesboro	0-10	Loam-------------	ML, CL-ML, CL, SM	A-4	0-5	85-100	80-100	70-95	43-70	18-30	2-9
	10-65	Clay loam, sandy clay, clay.	MH, CL, ML	A-4, A-6, A-7	0-5	90-100	80-100	70-98	55-75	35-68	9-32
WaD2------------- Waynesboro	0-10	Loam-------------	ML, CL-ML, CL, SM	A-4	0-5	85-100	80-100	70-95	43-70	18-30	2-9
	10-72	Clay loam, sandy clay, clay.	MH, CL, ML	A-4, A-6, A-7	0-5	90-100	80-100	70-98	55-75	35-68	9-32
Wo--------------- Woodmont	0-8	Silt loam--------	CL, ML, CL-ML	A-4	0	100	95-100	90-100	80-90	20-30	3-10
	8-23	Silt loam, silty clay loam.	CL-ML, CL	A-4, A-6	0	100	95-100	90-100	80-95	25-35	7-15
	23-60	Silt loam, silty clay loam.	CL	A-4, A-6	0-2	95-100	85-100	80-100	75-95	25-40	8-20

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
Ag---------------- Agee	0-9	27-40	1.30-1.50	0.2-0.6	0.17-0.21	5.6-7.8	High---------	0.32	5	2-4
	9-60	40-60	1.25-1.45	<0.06	0.12-0.16	5.6-7.8	High---------	0.32		
AnC. Arents										
ArB--------------- Armour	0-9	15-27	1.30-1.45	0.6-2.0	0.18-0.23	5.1-6.0	Low----------	0.43	5	1-3
	9-62	22-35	1.30-1.50	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.37		
ArC2, ArD2-------- Armour	0-7	15-27	1.30-1.45	0.6-2.0	0.18-0.23	5.1-6.0	Low----------	0.43	5	1-3
	7-62	22-35	1.30-1.50	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.37		
At---------------- Arrington	0-32	18-35	1.30-1.45	0.6-2.0	0.19-0.22	6.1-7.8	Low----------	0.37	5	2-4
	32-62	18-35	1.30-1.45	0.6-2.0	0.19-0.22	6.1-7.8	Low----------	0.37		
BaD:										
Barfield---------	0-5	35-55	1.50-1.62	0.2-0.6	0.10-0.15	6.1-7.8	Moderate-----	0.24	1	---
	5-16	35-55	1.55-1.65	0.2-0.6	0.09-0.14	6.1-7.8	High---------	0.17		
	16	---	---	---	---	---	-------------	----		
Rock outcrop.										
BeB2, BeC2-------- Bewleyville	0-10	15-27	1.30-1.50	0.6-2.0	0.20-0.22	4.5-6.5	Low----------	0.43	5	1-3
	10-45	22-35	1.35-1.55	0.6-2.0	0.18-0.20	4.5-6.0	Low----------	0.37		
	45-60	35-50	1.30-1.50	0.6-2.0	0.12-0.17	4.5-5.5	Moderate-----	0.37		
BrB2, BrC2-------- Bradyville	0-5	18-27	1.40-1.55	0.6-2.0	0.18-0.22	5.1-6.5	Low----------	0.43	3	.5-2
	5-19	32-40	1.40-1.55	0.6-2.0	0.14-0.18	5.1-6.0	Moderate-----	0.32		
	19-47	40-60	1.30-1.50	0.2-0.6	0.10-0.15	5.1-6.0	Moderate-----	0.28		
	47-52	48-60	1.30-1.50	0.2-0.6	0.10-0.15	5.1-7.8	Moderate-----	0.28		
	52	---	---	---	---	---	-------------	----		
BvB2-------------- Bradyville	0-5	18-27	1.40-1.55	0.6-2.0	0.18-0.22	5.1-6.5	Low----------	0.43	3	.5-2
	5-19	32-40	1.40-1.55	0.6-2.0	0.14-0.18	5.1-6.0	Moderate-----	0.32		
	19-40	40-60	1.30-1.50	0.2-0.6	0.10-0.15	5.1-6.0	Moderate-----	0.28		
	40-45	48-60	1.30-1.50	0.2-0.6	0.10-0.15	5.1-7.8	Moderate-----	0.28		
	45	---	---	---	---	---	-------------	----		
ByB--------------- Byler	0-9	15-27	1.35-1.50	0.6-2.0	0.18-0.22	5.1-6.0	Low----------	0.43	3	1-3
	9-28	20-35	1.35-1.50	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.37		
	28-41	22-38	1.50-1.70	0.06-0.2	0.04-0.08	5.1-6.0	Low----------	0.32		
	41-62	40-55	1.30-1.50	0.2-0.6	0.04-0.08	5.1-6.0	Moderate-----	0.24		
ByC2-------------- Byler	0-6	15-27	1.35-1.50	0.6-2.0	0.18-0.22	5.1-6.0	Low----------	0.43	3	1-3
	6-25	20-35	1.35-1.50	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.37		
	25-40	22-38	1.50-1.70	0.06-0.2	0.04-0.08	5.1-6.0	Low----------	0.32		
	40-62	40-55	1.30-1.50	0.2-0.6	0.04-0.08	5.1-6.0	Moderate-----	0.24		
CaB--------------- Capshaw	0-7	15-27	1.35-1.50	0.6-2.0	0.18-0.22	5.1-6.0	Low----------	0.37	4	1-3
	7-12	25-45	1.35-1.55	0.6-2.0	0.16-0.20	5.1-6.0	Low----------	0.37		
	12-42	35-55	1.40-1.55	0.06-0.2	0.12-0.18	5.1-6.0	Moderate-----	0.24		
	42-50	35-50	1.40-1.60	0.06-0.2	0.12-0.16	5.6-7.8	Moderate-----	0.24		
	50	---	---	---	---	---	-------------	----		
DeE, DeF---------- Dellrose	0-13	15-27	1.20-1.40	2.0-6.0	0.13-0.17	4.5-6.0	Low----------	0.24	5	1-3
	13-68	20-35	1.20-1.40	2.0-6.0	0.11-0.17	4.5-6.0	Low----------	0.24		

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
DoB--------------	0-10	20-40	1.35-1.50	0.6-2.0	0.16-0.20	5.1-7.3	Low----------	0.32	3	.5-2
Dowellton	10-15	50-65	1.35-1.50	0.06-0.2	0.12-0.16	5.1-7.3	High---------	0.32		
	15-50	60-75	1.30-1.40	0.06-0.2	0.11-0.15	5.1-7.8	High---------	0.32		
	50	---	---	---	---	---	-------------	----		
Ea---------------	0-13	27-45	1.25-1.40	0.06-0.2	0.12-0.18	5.6-7.8	High---------	0.32	2	2-5
Eagleville	13-31	35-60	1.30-1.50	0.06-0.2	0.10-0.16	5.6-7.8	High---------	0.32		
	31	---	---	---	---	---	-------------	----		
Eg---------------	0-14	20-35	1.30-1.45	0.2-0.6	0.18-0.22	5.6-7.3	Moderate-----	0.32	5	2-4
Egam	14-62	35-50	1.30-1.45	0.2-0.6	0.14-0.20	5.6-7.3	Moderate-----	0.32		
GaC:										
Gladeville------	0-9	35-45	1.30-1.50	0.6-2.0	0.05-0.11	6.6-8.4	Moderate-----	0.17	1	---
	9	---	---	---	---	---	-------------	----		
Rock outcrop.										
HaB2, HaC2, HaD2-	0-6	15-27	1.35-1.50	0.6-2.0	0.18-0.22	4.5-6.0	Low----------	0.43	3	1-3
Hampshire	6-40	35-55	1.25-1.45	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	40-50	22-40	1.30-1.50	0.6-2.0	0.07-0.12	4.5-6.0	Low----------	0.24		
	50-65	---	---	---	---	---	-------------	----		
HaD3-------------	0-6	27-40	1.30-1.45	0.6-2.0	0.14-0.18	4.5-6.0	Moderate-----	0.32	3	.5-1
Hampshire	6-35	35-55	1.25-1.45	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	35-45	22-40	1.30-1.50	0.6-2.0	0.07-0.12	4.5-6.0	Low----------	0.24		
	45-60	---	---	---	---	---	-------------	----		
HbD, HbF---------	0-8	12-25	1.40-1.50	2.0-6.0	0.14-0.18	4.5-5.5	Low----------	0.20	2	2-5
Hawthorne	8-28	15-32	1.40-1.50	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.10		
	28-60	---	---	---	---	---	-------------	----		
HcB, HcC2--------	0-7	15-30	1.35-1.45	0.6-2.0	0.18-0.22	5.1-6.5	Low----------	0.43	3	.5-2
Hicks	7-25	20-35	1.35-1.50	0.6-2.0	0.16-0.20	5.1-6.0	Low----------	0.37		
	25-38	30-45	1.35-1.50	0.6-2.0	0.14-0.18	5.1-6.0	Moderate-----	0.32		
	38-45	25-40	1.35-1.50	0.6-2.0	0.07-0.12	5.1-6.0	Low----------	0.24		
	45-60	---	---	---	---	---	-------------	----		
HoB2-------------	0-6	10-25	1.35-1.50	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.28	5	.5-2
Holston	6-60	18-35	1.40-1.55	0.6-2.0	0.13-0.20	4.5-5.5	Low----------	0.32		
InC2, InD2, InE2-	0-6	25-40	1.30-1.45	0.6-2.0	0.08-0.12	5.6-7.3	Moderate-----	0.28	2	---
Inman	6-25	35-55	1.35-1.55	0.2-0.6	0.06-0.11	5.6-7.3	Moderate-----	0.24		
	25-72	---	---	---	---	---	-------------	----		
Ld---------------	0-6	20-32	1.35-1.50	0.6-2.0	0.16-0.20	5.6-7.3	Low----------	0.32	5	1-3
Lindell	6-60	20-35	1.35-1.50	0.6-2.0	0.14-0.17	5.6-7.3	Low----------	0.28		
LoB, LoC2--------	0-8	18-32	1.35-1.50	0.6-2.0	0.18-0.22	5.1-6.5	Low----------	0.43	5	1-3
Lomond	8-41	25-38	1.40-1.55	0.6-2.0	0.17-0.21	5.1-6.5	Low----------	0.32		
	41-70	32-45	1.35-1.50	0.6-2.0	0.12-0.17	5.1-6.5	Low----------	0.32		
MaB2, MaC2-------	0-6	12-27	1.20-1.40	2.0-6.0	0.18-0.23	5.1-7.3	Low----------	0.32	5	2-5
Maury	6-18	35-40	1.30-1.55	0.6-6.0	0.18-0.22	5.1-6.5	Low----------	0.28		
	18-75	35-60	1.40-1.60	0.6-2.0	0.15-0.20	5.1-6.5	Low----------	0.28		
MmC2, MmD2-------	0-7	24-40	1.30-1.50	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.37	3	1-3
Mimosa	7-13	35-55	1.30-1.50	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	13-55	45-60	1.35-1.55	0.06-0.2	0.10-0.16	4.5-6.0	Moderate-----	0.24		
	55	---	---	---	---	---	-------------	----		

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
MrC2:										
Mimosa----------	0-7	24-40	1.30-1.50	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.37	3	1-3
	7-11	35-55	1.30-1.50	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	11-52	45-60	1.35-1.55	0.06-0.2	0.10-0.16	4.5-6.0	Moderate-----	0.24		
	52	---	---	---	---	---	-------------	----		
Rock outcrop.										
MrE2:										
Mimosa----------	0-6	24-40	1.30-1.50	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.37	3	1-3
	6-10	35-55	1.30-1.50	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	10-46	45-60	1.35-1.55	0.06-0.2	0.10-0.16	4.5-6.0	Moderate-----	0.24		
	46	---	---	---	---	---	-------------	----		
Rock outcrop.										
NeB-------------- Nesbitt	0-7	15-30	1.35-1.45	0.6-2.0	0.18-0.22	5.1-6.0	Low----------	0.43	5	1-3
	7-27	20-32	1.40-1.55	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.37		
	27-40	20-35	1.50-1.65	0.2-2.0	0.10-0.15	5.1-6.0	Low----------	0.37		
	40-60	40-55	1.45-1.60	0.2-0.6	0.10-0.15	5.1-6.0	Moderate-----	0.24		
No--------------- Norene	0-15	16-27	1.35-1.60	0.6-2.0	0.18-0.22	5.6-7.3	Low----------	0.43	5	.5-2
	15-42	23-36	1.35-1.60	0.6-2.0	0.16-0.22	5.6-7.3	Low----------	0.43		
	42-60	35-45	1.30-1.55	0.2-0.6	0.12-0.18	5.6-7.3	Moderate-----	0.37		
Pt:										
Pits.										
Dumps.										
RoE:										
Rock outcrop.										
Mimosa----------	0-6	24-40	1.30-1.50	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.37	3	1-3
	6-10	35-55	1.30-1.50	0.2-0.6	0.12-0.16	4.5-6.0	Moderate-----	0.28		
	10-46	45-60	1.35-1.55	0.06-0.2	0.10-0.16	4.5-6.0	Moderate-----	0.24		
	46	---	---	---	---	---	-------------	----		
Gladeville------	0-9	35-45	1.30-1.50	0.6-2.0	0.05-0.11	6.6-8.4	Moderate-----	0.17	1	---
	9	---	---	---	---	---	-------------	----		
StB-------------- Stiversville	0-12	15-27	1.40-1.55	2.0-6.0	0.15-0.20	5.1-6.0	Low----------	0.32	3	1-3
	12-50	20-35	1.40-1.55	2.0-6.0	0.14-0.18	5.1-6.0	Low----------	0.28		
	50-60	---	---	---	---	---	-------------	----		
StC2, StD2, StE2- Stiversville	0-12	15-27	1.40-1.55	2.0-6.0	0.15-0.20	5.1-6.0	Low----------	0.32	3	1-3
	12-45	20-35	1.40-1.55	2.0-6.0	0.14-0.18	5.1-6.0	Low----------	0.28		
	45-60	---	---	---	---	---	-------------	----		
TaB2------------- Talbott	0-5	15-27	1.35-1.50	0.6-2.0	0.10-0.18	5.1-6.0	Moderate-----	0.37	2	.5-2
	5-30	40-60	1.40-1.60	0.2-0.6	0.10-0.14	5.1-6.0	Moderate-----	0.24		
	30	---	---	---	---	---	-------------	----		
TaB3------------- Talbott	0-5	32-50	1.35-1.55	0.6-2.0	0.10-0.16	5.1-6.0	Moderate-----	0.32	2	<1
	5-26	40-60	1.40-1.60	0.2-0.6	0.10-0.14	5.1-6.0	Moderate-----	0.24		
	26	---	---	---	---	---	-------------	----		
TaC2------------- Talbott	0-5	15-27	1.35-1.50	0.6-2.0	0.10-0.18	5.1-6.0	Moderate-----	0.37	2	.5-2
	5-30	40-60	1.40-1.60	0.2-0.6	0.10-0.14	5.1-6.0	Moderate-----	0.24		
	30	---	---	---	---	---	-------------	----		

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
TaC3------------- Talbott	0-5	32-50	1.35-1.55	0.6-2.0	0.10-0.16	5.1-6.0	Moderate-----	0.32	2	<1
	5-26	40-60	1.40-1.60	0.2-0.6	0.10-0.14	5.1-6.0	Moderate-----	0.24		
	26	---	---	---	---	---	-------------	----		
TrC2------------- Talbott	0-5	15-27	1.35-1.50	0.6-2.0	0.10-0.18	5.1-6.0	Moderate-----	0.37	2	.5-2
	5-30	40-60	1.40-1.60	0.2-0.6	0.10-0.14	5.1-6.0	Moderate-----	0.24		
	30	---	---	---	---	---	-------------	----		
Tu--------------- Tupelo	0-10	18-27	1.35-1.50	0.6-2.0	0.18-0.22	5.1-6.5	Low----------	0.37	4	1-3
	10-14	30-45	1.40-1.55	0.6-2.0	0.15-0.20	5.1-6.5	Moderate-----	0.32		
	14-60	40-65	1.40-1.55	0.06-0.2	0.12-0.16	5.1-6.5	High---------	0.28		
WaB2, WaC2------- Waynesboro	0-10	10-30	1.40-1.55	0.6-2.0	0.15-0.21	4.5-5.5	Low----------	0.28	5	.5-2
	10-65	35-50	1.40-1.55	0.6-2.0	0.13-0.18	4.5-5.5	Low----------	0.28		
WaD2------------- Waynesboro	0-10	10-30	1.40-1.55	0.6-2.0	0.15-0.21	4.5-5.5	Low----------	0.28	5	.5-2
	10-72	35-50	1.40-1.55	0.6-2.0	0.13-0.18	4.5-5.5	Low----------	0.28		
Wo--------------- Woodmont	0-8	15-25	1.35-1.50	0.6-2.0	0.18-0.20	5.1-5.5	Low----------	0.43	3	.5-2
	8-23	18-30	1.40-1.60	0.6-2.0	0.17-0.20	5.1-5.5	Low----------	0.43		
	23-60	18-35	1.60-1.75	0.06-0.2	0.05-0.09	5.1-6.0	Low----------	0.43		

TABLE 16.--SOIL AND WATER FEATURES

("Flooding" and "water table" and terms such as "rare," "very brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
Ag: Agee	D	Rare	---	---	0-1.0	Apparent	Jan-Apr	>60	---	High	Low.
AnC. Arents											
ArB, ArC2, ArD2: Armour	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
At: Arrington	B	Occasional	Very brief	Dec-Mar	4.0-6.0	Apparent	Jan-Mar	>60	---	Low	Low.
BaD:											
Barfield	D	None	---	---	>6.0	---	---	8-20	Hard	High	Low.
Rock outcrop.											
BeB2, BeC2: Bewleyville	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
BrB2, BrC2, BvB2: Bradyville	C	None	---	---	>6.0	---	---	40-60	Hard	High	Moderate.
ByB, ByC2: Byler	C	None	---	---	2.0-3.0	Perched	Dec-Mar	>60	---	High	Moderate.
CaB: Capshaw	C	None	---	---	3.5-5.0	Apparent	Dec-Mar	48-60	Hard	High	Moderate.
DeE, DeF: Dellrose	B	None	---	---	>6.0	---	---	>60	---	High	Moderate.
DoB: Dowellton	D	None	---	---	0.5-1.0	Perched	Dec-Mar	40-60	Hard	High	Moderate.
Ea: Eagleville	D	Occasional	Very brief	Dec-Mar	1.0-2.0	Perched	Dec-Mar	20-40	Hard	High	Low.
Eg: Egam	C	Occasional	Very brief	Dec-Mar	3.0-4.0	Apparent	Dec-Mar	>60	---	High	Low.
GaC:											
Gladeville	D	None	---	---	>6.0	---	---	3-12	Hard	High	Low.
Rock outcrop.											
HaB2, HaC2, HaD2, HaD3: Hampshire	C	None	---	---	>6.0	---	---	40-60	Soft	High	Moderate.
HbD, HbF: Hawthorne	B	None	---	---	>6.0	---	---	20-40	Soft	Low	High.
HcB, HcC2: Hicks	B	None	---	---	>6.0	---	---	40-60	Soft	Moderate	Moderate.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness	Uncoated steel	Concrete
					Ft			In			
HoB2-------------- Holston	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	High.
InC2, InD2, InE2-- Inman	C	None--------	---	---	>6.0	---	---	20-40	Soft	High-----	Low.
Ld---------------- Lindell	C	Occasional	Very brief	Dec-Mar	2.0-3.0	Apparent	Dec-Mar	>60	---	Moderate	Low.
LoB, LoC2--------- Lomond	B	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
MaB2, MaC2-------- Maury	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
MmC2, MmD2-------- Mimosa	C	None--------	---	---	>6.0	---	---	40-60	Hard	High-----	Moderate.
MrC2, MrE2:											
Mimosa-----------	C	None--------	---	---	>6.0	---	---	40-60	Hard	High-----	Moderate.
Rock outcrop.											
NeB--------------- Nesbitt	B	None--------	---	---	2.0-4.0	Perched	Jan-Mar	>60	---	High-----	Moderate.
No---------------- Norene	C	Rare--------	---	---	+1-1.5	Apparent	Jan-Mar	>60	---	High-----	Low.
Pt:											
Pits.											
Dumps.											
RoE:											
Rock outcrop.											
Mimosa-----------	C	None--------	---	---	>6.0	---	---	40-60	Hard	High-----	Moderate.
Gladeville-------	D	None--------	---	---	>6.0	---	---	3-12	Hard	High-----	Low.
StB, StC2, StD2, StE2------------- Stiversville	B	None--------	---	---	>6.0	---	---	40-60	Soft	Moderate	Moderate.
TaB2, TaB3, TaC2, TaC3, TrC2------- Talbott	C	None--------	---	---	>6.0	---	---	20-40	Hard	High-----	Moderate.
Tu---------------- Tupelo	D	None--------	---	---	1.0-2.0	Apparent	Dec-Mar	>60	---	High-----	Moderate.
WaB2, WaC2, WaD2-- Waynesboro	B	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
Wo---------------- Woodmont	C	None--------	---	---	1.0-2.0	Perched	Dec-Mar	>60	---	High-----	Moderate.

TABLE 17.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Agee	Fine, montmorillonitic, thermic Typic Haplaquolls
Armour	Fine-silty, mixed, thermic Ultic Hapludalfs
Arrington	Fine-silty, mixed, thermic Cumulic Hapludolls
Barfield	Clayey, mixed, thermic Lithic Hapludolls
Bewleyville	Fine-silty, siliceous, thermic Typic Paleudults
Bradyville	Fine, mixed, thermic Typic Hapludalfs
Byler	Fine-silty, siliceous, thermic Typic Fragiudalfs
Capshaw	Fine, mixed, thermic Ultic Hapludalfs
Dellrose	Fine-loamy, mixed, thermic Humic Hapludults
Dowellton	Very fine, mixed, thermic Vertic Ochraqualfs
Eagleville	Fine, montmorillonitic, thermic Fluvaquentic Haplaquolls
Egam	Fine, mixed, thermic Cumulic Hapludolls
Gladeville	Clayey-skeletal, mixed, thermic Lithic Rendolls
Hampshire	Fine, mixed, thermic Ultic Hapludalfs
Hawthorne	Loamy-skeletal, siliceous, thermic Ruptic-Ultic Dystrochrepts
Hicks	Fine-silty, mixed, thermic Ultic Hapludalfs
Holston	Fine-loamy, siliceous, thermic Typic Paleudults
Inman	Fine, mixed, thermic Ruptic-Alfic Eutrochrepts
Lindell	Fine-loamy, mixed, thermic Fluvaquentic Eutrochrepts
Lomond	Fine-silty, siliceous, thermic Mollic Paleudalfs
Maury	Fine, mixed, mesic Typic Paleudalfs
Mimosa	Fine, mixed, thermic Typic Hapludalfs
Nesbitt	Fine-silty, siliceous, thermic Aquic Paleudalfs
Norene	Fine-silty, mixed, thermic Aeric Ochraqualfs
Stiversville	Fine-loamy, mixed, thermic Ultic Hapludalfs
Talbott	Fine, mixed, thermic Typic Hapludalfs
Tupelo	Fine, mixed, thermic Aquic Hapludalfs
Waynesboro	Clayey, kaolinitic, thermic Typic Paleudults
Woodmont	Fine-silty, siliceous, thermic Glossaquic Fragiudalfs

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