United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with Tennessee Agricultural Experiment Station, Tennessee Department of Agriculture, Cannon County Board of Commissioners, and Cannon County Soil Conservation District

Soil Survey of Cannon County, Tennessee

How To Use This Soil Survey

General Soil Map

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

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.

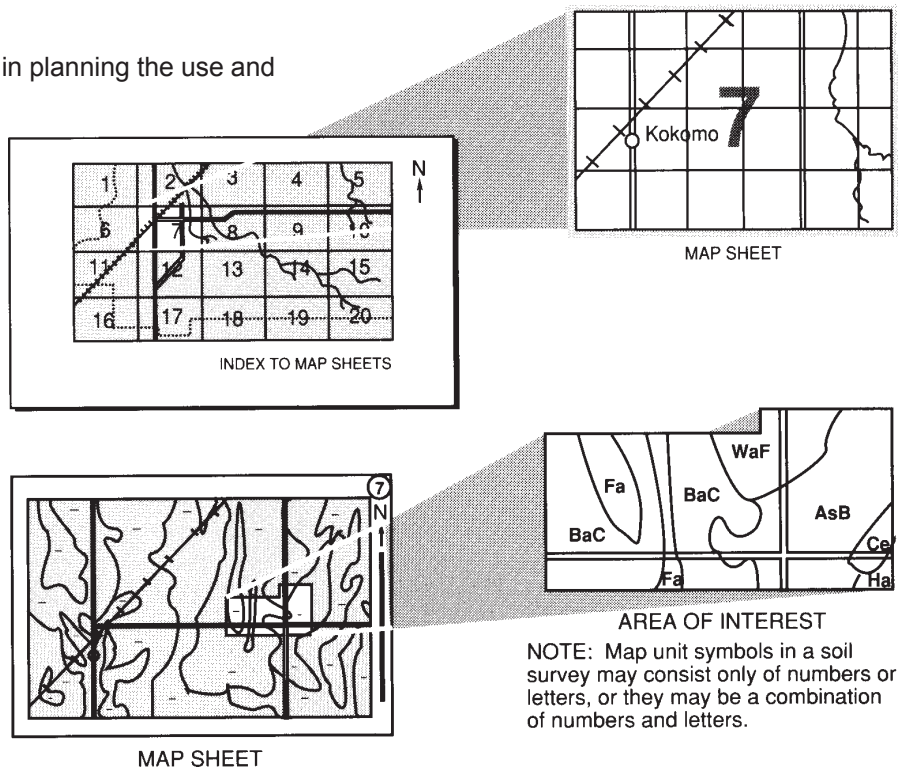
Detailed Soil Maps

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

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

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

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



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 1996. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1996. This survey was made cooperatively by the Natural Resources Conservation Service, the Tennessee Agricultural Experiment Station, the Tennessee Department of Agriculture, the Cannon County Board of Commissioners, and the Cannon County Soil Conservation District. The survey is part of the technical assistance furnished to the Cannon 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.

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Cover: View in the Nashville Basin. Dellrose soils are in areas of pasture on hillslopes, and Hawthorne soils are above on the wooded ridges.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov.

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Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, 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.

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

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

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

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State Conservationist
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Soil Survey of
Cannon County, Tennessee

By Jerry L. Prater

Fieldwork by Jerry L. Prater and William R. Loftis, III

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
Tennessee Agricultural Experiment Station, Tennessee Department of Agriculture,
Cannon County Board of Commissioners, and Cannon County Soil Conservation
District

Cannon County is in the central part of Tennessee (fig. 1). It is bounded on the north by Wilson County, on the east by Dekalb and Warren Counties, on the south by Coffee County, and on the west by Rutherford County.

The county is irregular in shape, measuring about 16 miles from east to west and 22 miles from north to south. It has an area of 170,000 acres, or 265.6 square miles. Woodbury, the county seat, is in the central part of the county.

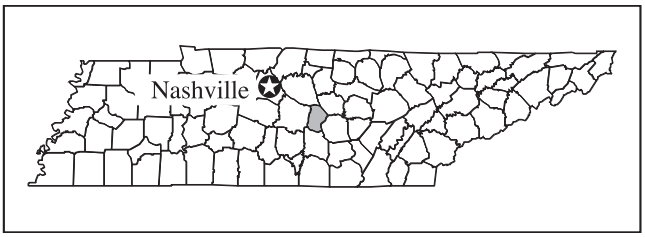

Figure 1.—Location of Cannon County in Tennessee.

General Nature of the County

This section gives general information about Cannon County. It describes the settlement as well as the nature of the county's farming and industry. In addition, this section also briefly describes the county's physiography, relief, and drainage and concludes with a description of the climate.

Settlement, Farming, and Industry

Cannon County was established by an act of the Tennessee General Assembly, passed in January 1836. Organized the following May from portions of Rutherford, Smith, and Warren Counties, the county was named for Newton Cannon, Governor of Tennessee. Woodbury, named for Levi Woodbury of New Hampshire, was established as the county seat. In 1840, the population of Cannon County was 7,163 (Goodspeed Histories 1972). In 1890 the population was 12,197 (Mason 1984), and in 2000 was 12,826 (U.S. Census Bureau 2000).

Native Americans used the area that is now Cannon County primarily for hunting. White hunters and trappers entered the area in the 1700s. White settlers, mostly from North Carolina, Virginia, and East Tennessee, established settlements in the southwest portion of the county in the late 1700s and early 1800s. Settlement spread across the western and Short Mountain areas of the county in the early 1800s. The southeast and east area of the county on the Highland Rim was settled less quickly than the rest of Cannon County (Goodspeed Histories 1972; Brown 1936). Nearly all the land was wooded, except for some native grass areas of the Highland Rim where the trees were thinner and smaller (Mason 1984).

The economy of Cannon County was almost wholly agricultural until the mid-1900s. The land was tilled by families, as much as 25 percent of the land being tilled by tenants. Corn, grown for fodder and grain, and

wheat were the principle crops. Hogs and cattle often ran free-range, predominantly on the Highland Rim. In the 1880s, soils on the Highland Rim known as the "Barrens" were described as light-colored, thin, and unproductive, good only for the rank barren grass; prospects for farmers were described as "extremely bleak" (Goodspeed Histories 1972; Mason 1984). In contrast, some soils in the Nashville Basin were described as fertile on the knobs but made unfit for cultivation by limestone outcrop, while other areas in the basin were valuable farm lands, rich, loamy, easily worked, and productive (Goodspeed Histories 1972). Natural catastrophic events such as the "Big Fresh" of March 1902, during which heavy rainfall occurred as the hillsides were being prepared for planting, affected agricultural land use. The resulting erosion exposed hard clay and rocks not previously visible in the fields (Mason 1981). After 1920, the population began to decrease with the migration to the northern states. By 1970, nearly half the working population in Cannon County was employed in off-farm work (Mason 1984).

Farming methods began to change in the 1930s. The use of fertilizers, machinery, and electricity in the mid-1900s caused the movement of row cropping to the Highland Rim, and the hills of the Nashville Basin returned to woodland or were converted to pasture. Dairy and beef operations increased during the mid-1900s, and feeder-pig production increased in the 1980s.

Corn has historically been the main crop produced in Cannon County. In 1879, over 821,000 bushels of corn were produced on 27,812 acres. In 1992, 800,000 bushels were produced on 6,400 acres. Only recently, since the 1970s, with increased acreage planted to row-cropped soybeans, has corn production had competition from other row crops. In 1992, 200,000 bushels of soybeans were harvested for grain on 5,500 acres (Tennessee Department of Agriculture 1993). At present, most crop management practices rotate corn or soybeans in a double-crop system with wheat.

Grinding grain by the use of water-powered mills was among the earliest industries in Cannon County. Grindstones were quarried on Short Mountain in 1806. Other industries during in the 1800s and into the early 1900s included such small operations as sawmills, carding mills, tanneries, brick works, and, in the 1920s and 1930s, home industries such as chair making and basket weaving. At present, several chair makers and basket weavers operate small family businesses in Cannon County. The first modern factory, a cheese processing plant, came to Cannon County in the 1930s (Mason 1984). In 1995, industries in Cannon County included manufacturers of apparel, boat interiors, lumber and wood products, tool-and-die and steel products, and light aircraft.

Physiography, Relief, and Drainage

Cannon County is divided into two major land resource areas—the Highland Rim and the Nashville Basin. However, Short Mountain, a small erosional remnant of the Cumberland Plateau, is in the northeastern part of the county. Elevation ranges from 2,092 feet above sea level on Short Mountain to 610 feet along the East Fork Stones River at Readyville in the western part of the county.

The soils on the Highland Rim formed predominately in a silty mantle over residuum or alluvium from limestone and siltstone. The soils on the steep, narrow ridges of the Highland Rim Escarpment formed predominantly in gravelly residuum and colluvium from weathered limestone and siltstone. The soils in the Nashville Basin formed predominantly in residuum from limestone.

The Highland Rim is underlain by Mississippian-age limestone. The Nashville Basin is underlain by Ordovician-age limestone.

The eastern part of the county is drained by Witty Creek, Bullpen Creek, Youngblood Creek, Charles Creek, and Mountain Creek, eastward to Barren Fork and the Collins River. The northern part of the county is drained by Sanders Fork Creek and Clear Fork Creek, northward to Smith Fork. The central and western part of the county is drained westward by the East Fork Stones River.

Climate

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

In winter, the average temperature is 39 degrees F and the average daily minimum temperature is 27 degrees. The lowest temperature on record, which occurred at Woodbury on January 21, 1985, is -28 degrees. In summer, the average temperature is 75 degrees and the average daily maximum temperature is 88 degrees. The highest recorded temperature, which occurred on July 16, 1980, is 106 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 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 55.8 inches. Of this, about 27.15 inches, or 49 percent, usually falls in April through September. The growing season for most crops falls within this period. The heaviest one-day rainfall during the period of record was 7.13 inches on March 13, 1975. Thunderstorms occur on about 53 days each year, and most occur in July.

The average seasonal snowfall is about 6.8 inches. The greatest snow depth at any one time during the period of record was 12 inches. On the average, 4 days of the year have at least 1 inch of snow on the ground. The heaviest one-day snowfall on record was 13 inches.

The average relative humidity in midafternoon is about 57 percent. Humidity is higher at night, and the average at dawn is about 84 percent. The sun shines 64 percent of the time possible in summer and 43 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in March.

How This Survey Was Made

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

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are

predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey area.

General Soil Map Units

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

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

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

1. Dickson-Mountview

Very deep, nearly level to rolling, moderately well drained and well drained soils formed in loess and the underlying alluvium and residuum on divides (fig. 2)

Setting

Physiographic area: Highland Rim
Landscape: Broad divides
Slope range: 1 to 12 percent

Composition

Extent of the map unit: 24 percent of the survey area
Extent of the soils in the map unit:
Dickson soils—49 percent
Mountview soils—28 percent
Minor soils—23 percent

Soil Properties and Qualities

Dickson

Depth class: Very deep
Drainage class: Moderately well drained
Position on landscape: Divides
Parent material: Medium textured loess over moderately fine and fine textured alluvium and residuum
Surface texture: Silt loam
Slope: Undulating

Mountview

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Divides
Parent material: Medium textured loess over moderately fine and fine textured alluvium and residuum
Surface texture: Silt loam
Slope: Undulating to rolling

Minor Soils

- Christian soils on ridges and hillsides
- Guthrie soils at the heads of drainageways
- Sango and Taft soils on divides
- Lobelville soils on flood plains
- Tarklin soils on stream terraces

Use and Management

Major Uses: Cropland and pasture

Cropland

Suitability: Well suited or suited
Management concerns: Erosion hazard, slope, and seasonal wetness of the Dickson soils and some minor soils
Management measures: Residue management, farming on the contour, stripcropping, cover crops, crop rotation

Pasture and hay

Suitability: Well suited
Management concerns: Rooting depth and seasonal wetness of the Dickson soils and some minor soils
Management measures: Grazing management practices, weed and fertility management practices, plant selection

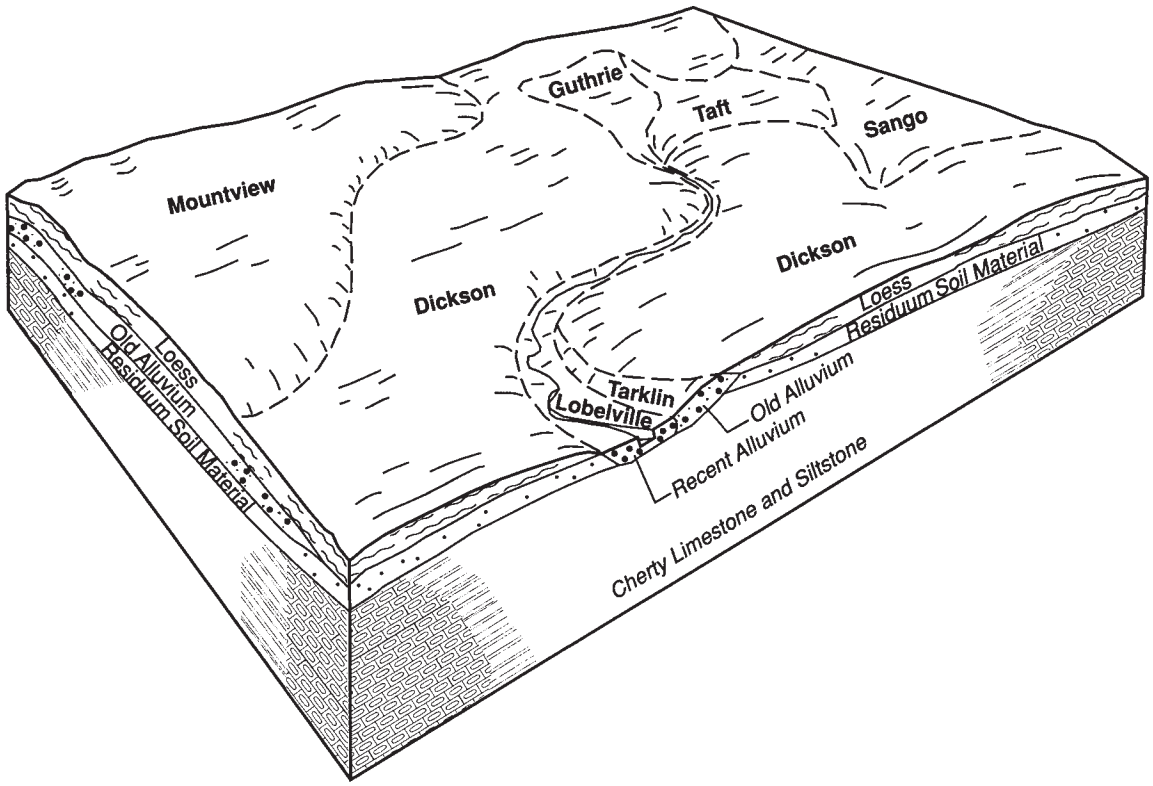

Figure 2.—Typical pattern of soils and parent material in the Dickson-Mountview general soil map unit.

Woodland

Suitability: Well suited
Management concerns: Plant competition during reforestation, windthrow hazard of the Dickson soils and some minor soils
Management measures: Site preparation and maintenance during reforestation, timing and methods of harvesting operations

Dwellings

Suitability: Well suited or suited; Dickson soils are poorly suited to basements
Management concerns: Wetness of the Dickson soils and some minor soils
Management measures: Site selection, drainage, engineering practices

Septic tank absorption fields

Suitability: Poorly suited or suited
Management concerns: Wetness, restricted permeability
Management measures: Site selection, specially designed systems, increase in size of absorption fields

2. Hawthorne-Dellrose-Gladdice-Rock outcrop

Moderately deep to very deep, hilly to steep, somewhat excessively drained and well drained soils formed in medium textured to fine textured residuum and medium textured to moderately fine textured colluvium on ridges and hillsides (fig. 3)

Setting

Physiographic area: Highland Rim escarpment and Nashville Basin
Landscape: Ridges and hillsides
Slope range: 12 to 60 percent

Composition

Extent of the map unit: 45 percent of the survey area
Extent of the soils in the map unit:
Hawthorne soils—36 percent
Dellrose soils—20 percent
Gladdice soils—11 percent
Rock outcrop—10 percent
Minor soils—23 percent

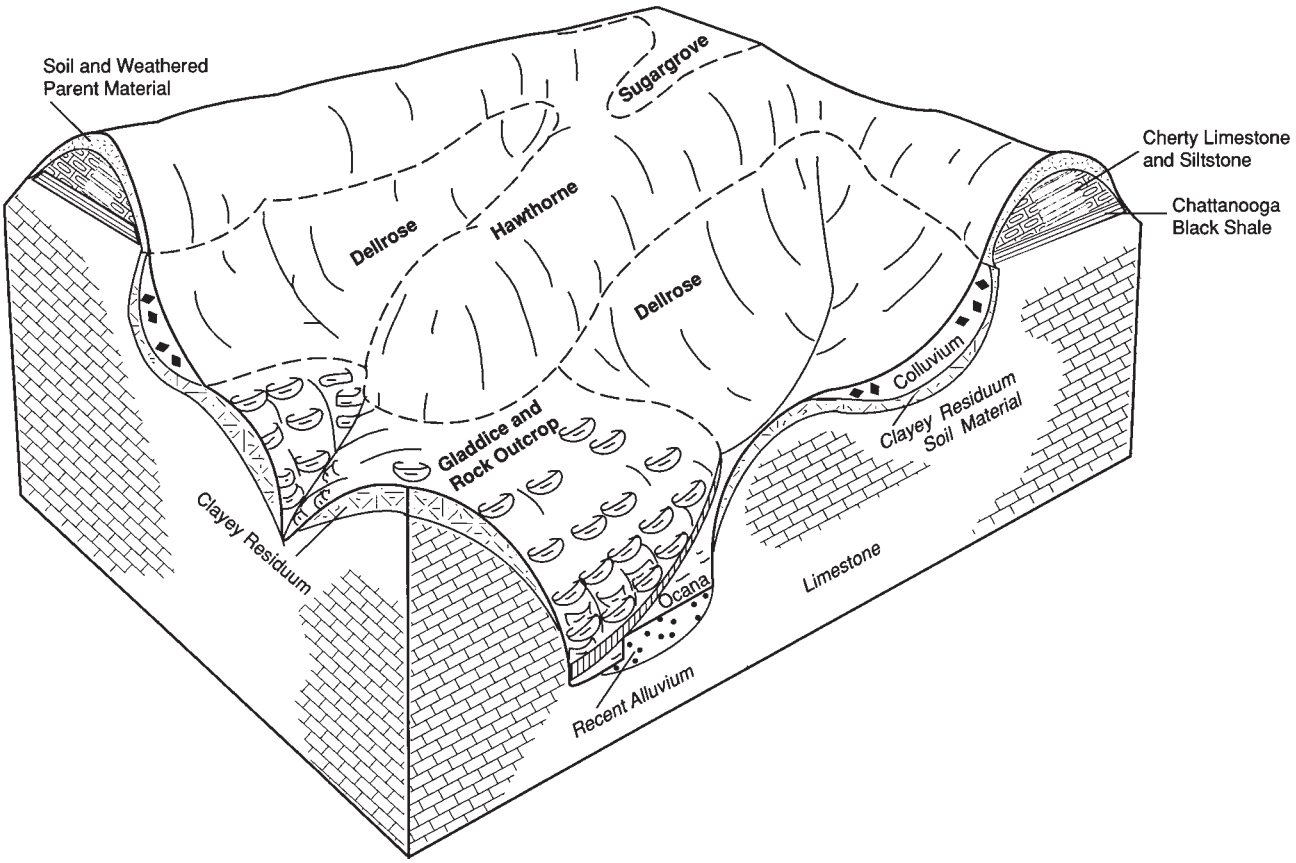

Figure 3.—Typical pattern of soils and parent material in the Hawthorne-Dellrose-Gladdice-Rock outcrop general soil map unit.

Soil Properties and Qualities

Hawthorne

Depth class: Moderately deep
Drainage class: Somewhat excessively drained
Position on landscape: Ridges
Parent material: Medium textured residuum
Surface texture: Gravelly silt loam, gravelly loam
Slope: Hilly to steep

Dellrose

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Medium textured and moderately fine textured colluvium
Surface texture: Gravelly silt loam
Slope: Strongly sloping to steep

Gladdice

Depth class: Moderately deep
Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Fine textured residuum
Surface texture: Silty clay loam, silt loam
Slope: Hilly to steep

Rock outcrop

Rock outcrop consists of areas where limestone crops out at the surface.

Minor Soils

- Ashwood soils, Barfield soils, and Mimosa soils on hillsides
- Ocana soils on flood plains
- Sugargrove soils on ridgetops

Use and Management

Major Uses: Woodland and pasture

Cropland

Suitability: Poorly suited or not suited
Management concerns: Erosion hazard, steep slopes, available water capacity, and rock outcrop
Management measures: Consideration of other sites

Pasture and hay

Suitability: Suited to pasture; poorly suited or not suited to hay
Management concerns: Steep slopes, soil properties, and rock outcrop
Management measures: Grazing management practices, plant selection, weed and fertility management practices

Woodland

Suitability: Well suited or suited
Management concerns: Erosion hazard, equipment limitation, seedling mortality, and plant competition during reforestation
Management measures: Timing and methods of harvesting operations, planting-stock selection, proper site preparation, and maintenance during reforestation

Dwellings

Suitability: Poorly suited
Management concerns: Steep slopes, soil properties, soil slippage, and rock outcrop
Management measures: Site selection, good engineering practices

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Steep slopes, depth to rock, soil permeability, and rock outcrop
Management measures: Site selection, specially designed systems, consideration of other sites

3. Etowah-Talbott-Rock outcrop

Very deep and moderately deep, strongly sloping to very steep, well drained soils formed in medium textured and moderately fine textured colluvium and alluvium, and fine textured residuum on hills and mountainsides

Setting

Physiographic area: Highland Rim
Landscape: Hills and mountainsides
Slope range: 5 to 70 percent

Composition

Extent of the map unit: 3 percent of the survey area
Extent of the soils in the map unit:
Etowah soils—37 percent
Talbott soils—12 percent
Rock outcrop—10 percent
Minor soils—41 percent

Soil Properties and Qualities

Etowah

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Medium textured and moderately fine textured colluvium and alluvium
Surface texture: Gravelly silt loam
Slope: Strongly sloping to steep

Talbott

Depth class: Moderately deep
Drainage class: Well drained
Position on landscape: Mountainsides and hillsides
Parent material: Fine textured residuum
Surface texture: Silt loam
Slope: Hilly to very steep

Rock outcrop

Rock outcrop consists of areas where limestone crops out at the surface.

Minor Soils

- Bewleyville and Waynesboro soils on divides and hillsides
- Gilpin soils on mountainsides
- Jefferson soils and Nella soils on mountainsides
- Lonewood soils on mountaintops

Use and Management

Major Uses: Woodland and pasture

Cropland

Suitability: Poorly suited; areas of Talbott and rock outcrop—not suited
Management concerns: Steep slopes, erosion hazard, and rock outcrop
Management measures: Consideration of other sites

Pasture and hay

Suitability: Well suited to poorly suited to pasture; poorly suited or not suited to hay
Management concerns: Steep slopes and rock outcrop
Management measures: Grazing management practices, weed and fertility management practices

Woodland

Suitability: Well suited; areas of Talbott and rock outcrop—poorly suited
Management concerns: Erosion hazard, plant

competition during reforestation, equipment limitation, seedling mortality
Management measures: Timing and methods of harvesting operations, planting-stock selection, proper site preparation, and maintenance during reforestation

Dwellings

Suitability: Suited or poorly suited
Management concerns: Steep slopes, depth to rock, and soil properties of the Talbott component, rock outcrop
Management measures: Site selection, good engineering practices

Septic tank absorption fields

Suitability: Poorly suited or suited
Management measures: Steep slopes, depth to rock and soil properties of the Talbott component, rock outcrop
Management measures: Site selection, specially designed systems, increase in size of absorption fields

4. Inman-Rock outcrop-Barfield

Moderately deep to shallow, rolling to steep, well drained soils formed in fine textured residuum on hills

Setting

Physiographic area: Nashville Basin
Landscape: Hillsides
Slope range: 5 to 60 percent

Composition

Extent of the map unit: 16 percent of the survey area
Extent of the soils in the map unit:
Inman soils—33 percent
Rock outcrop—20 percent
Barfield soils—12 percent
Minor soils—35 percent

Soil Properties and Qualities

Inman

Depth class: Moderately deep to shallow
Drainage class: Well drained
Position on landscape: Hillsides
Parent material: Fine textured residuum
Surface texture: Flaggy silty clay, flaggy silty clay loam
Slope: Rolling to steep

Rock outcrop

Rock outcrop consists of areas where limestone crops out at the surface.

Barfield

Depth class: Shallow
Drainage class: Well drained
Position on landscape: Hillsides and hilltops
Parent material: Fine textured residuum
Surface texture: Silty clay loam, clay
Slope: Rolling to steep

Minor Soils

- Ashwood soils, Hampshire soils, Mimosa soils, and Talbott soils on hillsides and divides
- Capshaw soils and Sykes soils on stream terraces
- Arrington soils, Egam soils, and Lindell soils on flood plains

Use and Management

Major Uses: Pasture and woodland

Cropland

Suitability: Poorly suited or not suited
Management concerns: Erosion hazard, steep slopes, soil properties, rock outcrop
Management measures: Consideration of other sites

Pasture and hay

Suitability: Poorly suited to pasture and poorly suited or not suited to hay
Management concerns: Steep slopes, soil properties, rock outcrop
Management measures: Grazing management practices, plant selection, weed and fertility management practices

Woodland

Suitability: Poorly suited
Management concerns: Erosion hazard, equipment limitation, seedling mortality, windthrow hazard, and plant competition during reforestation
Management measures: Timing and methods of harvesting operations, planting-stock selection, proper site preparation, and maintenance during reforestation

Dwellings

Suitability: Poorly suited
Management concerns: Steep slopes, soil properties, depth to rock, and rock outcrop
Management measures: Site selection, good engineering practices, consideration of other sites

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Steep slopes, depth to rock, soil permeability, and rock outcrop
Management measures: Site selection, specially designed systems, consideration of other sites

5. Talbott-Rock outcrop-Barfield

Moderately deep to shallow, undulating to steep, well drained soils formed in fine textured residuum on hills and divides

Setting

Physiographic area: Nashville Basin
Landscape: Hills and divides
Slope range: 2 to 35 percent

Composition

Extent of the map unit: 10 percent of the survey area
Extent of the soils in the map unit:
Talbott soils—45 percent
Rock outcrop—25 percent
Barfield soils—15 percent
Minor soils—15 percent

Soil Properties and Qualities

Talbott

Depth class: Moderately deep
Drainage class: Well drained
Position on landscape: Divides and hillsides
Parent material: Fine textured residuum
Surface texture: Silty clay loam, clay, silt loam
Slope: Undulating to hilly

Rock outcrop

Rock outcrop consists of areas where limestone crops out at the surface.

Barfield

Depth class: Shallow
Drainage class: Well drained
Position on landscape: Hillsides and divides
Parent material: Fine textured residuum
Surface texture: Silty clay loam, clay
Slope: Undulating to steep

Minor Soils

- Ashwood soils, Bradyville soils, and Gladeville soils on divides and hillsides
- Capshaw soils and Sykes soils on stream terraces
- Eagleville soils, Egam soils, and Arrington soils on flood plains

Use and Management

Major Uses: Pasture

Cropland

Suitability: Poorly suited or not suited
Management concerns: Erosion hazard, slope, soil properties, rock outcrop
Management measures: Consideration of other sites

Pasture and hay

Suitability: Suited or poorly suited to pasture and poorly suited or not suited to hay
Management concerns: Steep slopes, soil properties, rock outcrop
Management measures: Grazing management practices, plant selection, weed and fertility management practices

Woodland

Suitability: Poorly suited
Management concerns: Erosion hazard, equipment limitation, seedling mortality, windthrow hazard, and plant competition during reforestation
Management measures: Timing and methods of harvesting operations, planting-stock selection, proper site preparation, and maintenance during reforestation

Dwellings

Suitability: Poorly suited
Management concerns: Slope, soil properties, depth to rock, and rock outcrop
Management measures: Site selection, good engineering practices, consideration of other sites

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Slope, depth to rock, soil permeability, and rock outcrop
Management measures: Site selection, specially designed systems, consideration of other sites

6. Arrington-Egam-Sykes-Armour

Very deep, nearly level to strongly sloping, well drained and moderately well drained soils formed in medium textured to fine textured alluvium on flood plains and stream terraces

Setting

Physiographic area: Nashville Basin
Landscape: Flood plains and stream terraces
Slope range: 0 to 12 percent

Composition

Extent of the map unit: 2 percent of the survey area
Extent of the soils in the map unit:
Arrington soils—35 percent
Egam soils—20 percent
Sykes soils—18 percent
Armour soils—12 percent
Minor soils—15 percent

Soil Properties and Qualities

Arrington

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Flood plain
Parent material: Medium textured alluvium
Surface texture: Silt loam
Slope: Nearly level

Egam

Depth class: Very deep
Drainage class: Well drained to moderately well drained
Position on landscape: Flood plain
Parent material: Moderately fine textured and fine textured alluvium
Surface texture: Silty clay loam, silty clay, silt loam
Slope: Nearly level

Sykes

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Stream terrace
Parent material: Medium textured and moderately fine textured alluvium over fine textured residuum
Surface texture: Silt loam
Slope: Gently sloping to strongly sloping

Armour

Depth class: Very deep
Drainage class: Well drained
Position on landscape: Low stream terraces
Parent material: Medium textured and moderately fine textured alluvium
Surface texture: Silt loam
Slope: Nearly level to gently sloping

Minor Soils

- Capshaw soils on stream terraces
- Lindell soils and Ocana soils on flood plains

Use and Management

Major Uses: Cropland and pasture

Cropland

Suitability: Well suited or suited
Management concerns: Flooding; erosion hazard in sloping areas of Armour soils and Sykes soils
Management measures: Residue management, farming on the contour, stripcropping, cover crops, and crop rotation in sloping areas of Armour soils and Sykes soils

Pasture and hay

Suitability: Well suited
Management concerns: Flooding in areas of Arrington and Egam soils
Management measures: Grazing management practices, plant selection, weed and fertility management practices

Woodland

Suitability: Well suited
Management concerns: Plant competition during reforestation
Management measures: Proper site preparation and maintenance during reforestation

Dwellings

Suitability: Areas of Arrington, Egam, and minor soils on flood plains—not suited; Armour and Sykes soils—well suited
Management concerns: Flood hazard in areas of Arrington and Egam soils
Management measures: Site selection, protection from flooding

Septic tank absorption fields

Suitability: Areas of Arrington, Egam, and minor soils on flood plains—poorly suited; Armour and Sykes soils—well suited or suited
Management concerns: Flood hazard in areas of Arrington and Egam soils, soil permeability
Management measures: Site selection, protection from flooding, increase in size of absorption fields

Detailed Soil Map Units

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

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

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

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

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

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

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown

separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Gladdice-Rock outcrop complex, 15 to 35 percent slopes, eroded, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Jefferson and Nella stony loams, 20 to 60 percent slopes, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarry is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see “Contents”) 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 or miscellaneous areas.

ArA—Armour silt loam, 0 to 2 percent slopes, rarely flooded

Setting

Landscape position: Low stream terraces of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 20 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: Rare

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsurface layer:
8 to 20 inches—brown silt loam

Subsoil:
20 to 62 inches—strong brown silt loam and silty clay loam

Inclusions

Contrasting inclusions:
- Ocana soils in low areas near drainageways
- Arrington soils in low areas near drainageways
- Areas of a moderately well drained soil

Similar inclusions:
- Soils that contain slightly more gravel throughout

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 1

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance reduce undesirable plants, promoting natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Not suited—flood hazard
Management measures: Consideration of other sites

Septic tank absorption fields

Suitability: Suited
Management measures: Protection from flooding

ArB—Armour silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 70 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsurface layer:
8 to 19 inches—brown silt loam

Subsoil:
19 to 55 inches—strong brown silt loam and silty clay loam
55 to 67 inches—yellowish brown clay

Underlying material:
67 to 83 inches—light olive brown clay

Inclusions

Contrasting inclusions:
- Soils that are moderately well drained in the lower areas

Similar inclusions:
- Soils that contain slightly more gravel throughout
- Sykes soils in the higher areas

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Well suited
Management measures:
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Well suited

At—Arrington silt loam, occasionally flooded

Setting

Landscape position: Flood plains of the Nashville Basin

Shape of areas: Elongated
Size of areas: 8 to more than 600 acres
Major use: Cropland and pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Slightly acid to slightly alkaline
Depth to bedrock: More than 60 inches
Seasonal high water table: 4 to 6 feet; December-March
Flooding: Occasional; very brief; December-March

Typical Profile

Surface layer:
0 to 9 inches—dark brown silt loam

Subsurface layer:
9 to 26 inches—dark brown silt loam

Subsoil:
26 to 35 inches—very dark grayish brown silt loam
35 to 49 inches—dark yellowish brown silty clay loam

Underlying material:
49 to 61 inches—brown clay loam
61 to 76 inches—dark yellowish brown very gravelly loam

Inclusions

Contrasting inclusions:
- Egam soils
- Lindell soils in the lower areas
- Ocana soils

Similar inclusions:
- Soils that have a surface layer that is slightly lighter in color
- Soils that contain more gravel in the lower part of the subsoil
- Areas of Arrington soils that have a loamy overwash

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
- Cultivated crops may be occasionally damaged by flooding.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance reduce undesirable plants, promoting natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Not suited—flood hazard
Management measures: Consideration of other sites

Septic tank absorption fields

Suitability: Poorly suited—flood hazard
Management measures: Consideration of other sites

BaC—Barfield-Rock outcrop-Talbott complex, 2 to 12 percent slopes

Composition

Barfield soil and similar inclusions: 30 to 40 percent
Rock outcrop: 25 to 35 percent
Talbott soil and similar inclusions: 25 to 35 percent

Setting

Landscape position: Divides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 225 acres
Major use: Woodland and unimproved pasture

Soil Properties and Qualities of the Barfield Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low

Soil reaction: Slightly acid to moderately alkaline
Depth to bedrock: 8 to 20 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Soil Properties and Qualities of the Talbott Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low to moderate
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile of the Barfield Soil

Surface layer:
0 to 10 inches—very dark grayish brown silty clay loam

Subsoil:
10 to 16 inches—dark yellowish brown clay

Underlying material:
16 to 20 inches—limestone bedrock

Typical Profile of the Talbott Soil

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 16 inches—yellowish red clay
16 to 29 inches—strong brown clay
29 to 32 inches—light olive brown clay

Underlying material:
32 to 36 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Gladeville soils near rock outcrops
- Ashwood soils

Similar inclusions:
- Soils with brown subsoils
- Areas that are more eroded

Use and Management

Cropland

Suitability: Not suited
Management measures:
- Because of the soil properties, rock outcrop, and erosion hazard, these soils should not be used for cropland.
- Other sites should be considered.

Land capability classification: 6s

Pasture and hay

Suitability: Poorly suited
Management measures:
- Special attention is required in implementing management practices because of the difficulties posed by rock outcrop.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
- Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping and herbicide application reduce immediate plant competition.
- Avoiding areas of rock outcrop that might hinder yarding can also prevent breakage of timber.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Avoiding use of standard-wheeled and tracked equipment when the soils are wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
- Care should be taken when deep cuts needed to provide essentially level building sites expose bedrock.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to rock, slow permeability, and rock outcrop
Management measures: Consideration of other sites

BeC2—Bewleyville silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Ridges and divides of the Highland Rim
Shape of areas: Elongated
Size of areas: 9 to 170 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 22 inches—brown and yellowish red silty clay loam
22 to 80 inches—red clay loam

Inclusions

Contrasting inclusions:
- Christian soils on shoulders and nose slopes
- Waynesboro soils

Similar inclusions:
- Mountview soils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants in cover crops, crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Land shaping may be needed.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited

Management measures:
- Install field lines across the slope on the contour.
- Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.
- Increase the size of the absorption field to help overcome restricted permeability.

BeD2—Bewleyville silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 15 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 18 inches—strong brown silt loam
18 to 25 inches—yellowish red silty clay loam
25 to 40 inches—red clay loam
40 to 80 inches—dark red clay

Inclusions

Contrasting inclusions:
- Christian soils
- Waynesboro soils

Similar inclusions:
- Mountview soils
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help keep the pasture in good condition and protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited to poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Land shaping may be needed.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.

• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited to poorly suited
Management measures:
• Install field lines across the slope on the contour.
• Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing
• Increase the size of the absorption field to help overcome restricted permeability.

BrB—Bradyville silt loam, 2 to 5 percent slopes

Setting

Landscape position: Divides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 35 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid to slightly alkaline
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 10 inches—reddish brown silt loam
10 to 17 inches—red silty clay loam
17 to 53 inches—red clay

Underlying material:
53 to 57 inches—yellowish red clay
57 to 61 inches—limestone rock

Inclusions

Contrasting inclusions:
• Talbott soils
• Sykes soils
• Capshaw soils in the lower areas

Similar inclusions:
• Soils that have brown subsoils
• Soils that contain slightly more gravel in the surface layer

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Care should be taken where excavations for building sites expose bedrock.

• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Onsite investigation may be needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

BrC2—Bradyville silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Divides of the Nashville Basin
Shape of areas: Elongated or irregular
Size of areas: 5 to 50 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate
Soil reaction: Strongly acid to slightly alkaline
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 13 inches—yellowish red silty clay loam
13 to 45 inches—red and yellowish red clay
45 to 48 inches—strong brown clay

Underlying material:
48 to 52 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Capshaw soils in the lower areas
• Talbott soils

Similar inclusions:
• Soils that contain slightly more gravel in the surface layer
• Areas that are less eroded
• Soils that have brown subsoils

Use and Management

Cropland

Suitability: Suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.

• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Care should be taken where excavations for building sites expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

CaB—Capshaw silt loam, 2 to 6 percent slopes

Setting

Landscape position: Stream terraces and broad divides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 45 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: Moderate to high
Soil reaction: Strongly acid to mildly alkaline
Depth to bedrock: 40 to more than 60 inches
Seasonal high water table: 2 to 3.5 feet; December-March
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 17 inches—yellowish brown silty clay loam
17 to 37 inches—yellowish brown clay
37 to 52 inches—light olive brown clay

Underlying material:
52 to 70 inches—gray clay

Inclusions

Contrasting inclusions:
• Sykes soils
• Talbott soils in the higher areas
• Soils with less clay in the subsoil

Similar inclusions:
• Soils with darker surface layers
• Soils with surface layers that contain slightly more gravel

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Care should be taken where excavations for building sites expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Subsurface tile drains and land shaping help remove excess water.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Curtain drains and land shaping help remove excess water.
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

ChC2—Christian silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Ridges of the Highland Rim
Shape of areas: Elongated or irregular
Size of areas: 5 to 45 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately slow
Available water capacity: Moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 11 inches—strong brown silty clay loam
11 to 60 inches—red gravelly clay

Inclusions

Contrasting inclusions:
• Mountview soils
• Bewleyville soils

Similar inclusions:
• Soils with surface layers that contain more gravel
• Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying

manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Land shaping may be needed.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Installation of field lines across the slope is advisable.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

ChC3—Christian silty clay loam, 5 to 12 percent slopes, severely eroded

Setting

Landscape position: Ridges of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 35 acres
Major use: Pasture or idle land

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately slow
Available water capacity: Moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 3 inches—brown silty clay loam

Subsoil:
3 to 33 inches—yellowish red and red gravelly clay
33 to 60 inches—red clay

Inclusions

Contrasting inclusions:
• Bewleyville soils
• Mountview soils

Similar inclusions:
• Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter

cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Suited
Management measures:
• Using special planting stock that is larger and sturdier can reduce seedling mortality.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Land shaping may be needed.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Areas may require landscaping with additional topsoil.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Installation of field lines across the slope is advisable.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

ChD2—Christian silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Local landform: Hill
Shape of areas: Elongated
Size of areas: 5 to 25 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately slow
Available water capacity: Moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 5 inches—yellowish brown silt loam

Subsoil:
5 to 14 inches—strong brown silty clay loam
14 to 26 inches—red clay
26 to 75 inches—red gravelly clay

Inclusions

Contrasting inclusions:
• Bewleyville soils
• Mountview soils

Similar inclusions:
• Areas that contain slightly more gravel in the surface layer
• Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.

• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 6e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Land shaping may be needed.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Installation of field lines across the slope on the contour is advisable.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

CrC2—Christian gravelly silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Ridges of the Highland Rim
Shape of areas: Elongated or irregular
Size of areas: 5 to 40 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately slow
Available water capacity: Moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly silt loam

Subsoil:
6 to 11 inches—strong brown gravelly silty clay loam
11 to 53 inches—yellowish red and red gravelly clay
53 to 62 inches—red clay

Inclusions

Contrasting inclusions:
- Bewleyville soils
- Mountview soils

Similar inclusions:
- Areas with surface layers that contain less gravel
- Areas that are less eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Increasing the size of the absorption field helps overcome restricted permeability.
- Installation of field lines across the slope is advisable.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

CrD2—Christian gravelly silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 30 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately slow
Available water capacity: Moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly silt loam

Subsoil:
6 to 12 inches—yellowish red gravelly silty clay loam
12 to 60 inches—red and yellowish red gravelly clay

Inclusions

Contrasting inclusions:
- Mountview soils
- Bewleyville soils

Similar inclusions:
- Areas with surface layers that contain less gravel
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 6e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Land shaping may be needed.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Increasing the size of the absorption field helps overcome restricted permeability.
- Installation of field lines across the slope is advisable.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

DeC—Dellrose gravelly silt loam, 5 to 12 percent slopes

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 12 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained

Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown gravelly silt loam

Subsoil:
8 to 14 inches—strong brown gravelly silt loam
14 to 62 inches—strong brown gravelly silty clay loam

Inclusions

Contrasting inclusions:
- Ocana soils in the lower areas near drainageways
- Sykes soils

Similar inclusions:
- Soils that contain slightly less gravel

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Install field lines across the slope on the contour.

DeD2—Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 12 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderate acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—dark brown gravelly silt loam

Subsoil:
6 to 16 inches—brown gravelly silt loam
16 to 84 inches—strong brown gravelly silty clay loam

Inclusions

Contrasting inclusions:
- Gladdice soils
- Mimosa soils

Similar inclusions:
- Soils that contain slightly less gravel
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Care must be taken where this soil is disturbed with deep cuts and fills, to avoid sliding and slumping.
- Special engineering design and construction practices may be needed, such as locating roads and structures in the less severely sloped areas, installing special retaining systems and drainage systems, and anchoring foundations in stable material.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited to poorly suited
Management measures:
- Install field lines across the slope on the contour.

DeE2—Dellrose gravelly silt loam, 20 to 30 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 60 acres
Major use: Woodland and pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—dark brown gravelly silt loam

Subsoil:
6 to 16 inches—brown gravelly silt loam
16 to 84 inches—strong brown gravelly silty clay loam

Inclusions

Contrasting inclusions:
- Gladdice soils
- Mimosa soils

Similar inclusions:
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Other sites should be considered because of the slope and erosion hazard.

Land capability classification: 6e

Pasture and hay

Suitability: Suited to pasture and poorly suited to hay
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Special care is needed in the operation of farm equipment on the steep slopes.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Care must be taken where this soil is disturbed with deep cuts and fills, to avoid sliding and slumping.
- Special engineering design and construction practices may be needed, such as locating roads and structures in the less severely sloped areas, installing special retaining systems and drainage systems, and anchoring foundations in stable material.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Install field lines across the slope on the contour.

DeF2—Dellrose gravelly silt loam, 30 to 50 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 120 acres
Major use: Woodland and unimproved pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—dark brown gravelly silt loam

Subsoil:
6 to 16 inches—brown gravelly silt loam
16 to 84 inches—strong brown gravelly silty clay loam

Inclusions

Contrasting inclusions:
- Gladdice soils
- Mimosa soils

Similar inclusions:
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Other sites should be considered because of the slope and erosion hazard.

Land capability classification: 7e

Pasture and hay

Suitability: Poorly suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Special care is needed in the operation of farm equipment on the steep slopes.

Woodland

Suitability: Suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Care must be taken to avoid problems associated with steepness of slope, the main limitation of this map unit.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Poorly suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Care must be taken where this soil is disturbed with deep cuts and fills, to avoid sliding and slumping.
- Special engineering design and construction practices may be needed, such as locating roads and structures in the less severely sloped areas, installing special retaining systems and drainage systems, and anchoring foundations in stable material.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Install field lines across the slope on the contour.
- Consider other sites.

DhD2—Dellrose gravelly silt loam, shallow over clay, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 20 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow to slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly silt loam

Subsoil:
6 to 16 inches—brown gravelly silt loam
16 to 62 inches—yellowish brown clay

Inclusions

Contrasting inclusions:
- Gladdice soils
- Mimosa soils

Similar inclusions:
- Soils deeper to clay
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Land shaping may be needed.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Care must be taken where this soil is disturbed with deep cuts and fills, to avoid sliding and slumping.
- Special engineering design and construction practices may be needed, such as locating roads and structures in the less severely sloped areas, installing special retaining systems and drainage systems, and anchoring foundations in stable material.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Increasing the size of the absorption field helps overcome restricted permeability.
- Specially designed systems may be needed.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Installation of field lines across the slope on the contour is advisable.
- Avoiding construction of filter-field trench walls when the soil is too wet prevents walls from smearing and sealing.

DhE2—Dellrose gravelly silt loam, shallow over clay, 20 to 40 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated

Size of areas: 5 to 50 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow to slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown gravelly silt loam

Subsoil:
6 to 11 inches—brown gravelly silt loam
11 to 20 inches—strong brown gravelly silty clay loam
20 to 80 inches—yellowish brown clay

Inclusions

Contrasting inclusions:
- Gladdice soils
- Mimosa soils

Similar inclusions:
- Soils deeper to clay
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Other sites should be considered because of the slope and erosion hazard.

Land capability classification: 6e

Pasture and hay

Suitability: Suited to pasture and poorly suited to hay
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Care must be taken to operate farm machinery safely on the steep slopes.

Woodland

Suitability: Suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Care must be taken to avoid problems associated with steepness of slope, the main limitation of this map unit.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Poorly suited
Management measures:
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Care must be taken where this soil is disturbed with deep cuts and fills, to avoid sliding and slumping.
- Special engineering design and construction practices may be needed, such as locating roads and structures in the less severely sloped areas, installing special retaining systems and drainage systems, and anchoring foundations in stable material.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Increasing the size of the absorption field helps overcome restricted permeability.
- Specially designed systems may be needed.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Installation of field lines across the slope on the contour is advisable.

• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.
• Other sites should be considered.

DkB—Dickson silt loam, 1 to 4 percent slopes

Setting

Landscape position: Broad divides of the Highland Rim
Shape of areas: Irregular
Size of areas: 5 to more than 500 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow or very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 2.5 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 10 inches—brown silt loam

Subsoil:
10 to 24 inches—yellowish brown and pale brown silt loam
24 to 43 inches—yellowish brown silt loam; very firm fragipan
43 to 73 inches—red clay

Inclusions

Contrasting inclusions:
• Mountview soils in the higher areas
• Taft soils in the lower areas
• Tarklin soils in areas near drainageways

Similar inclusions:
• Sango soils
• Soils with slightly more gravel in the fragipan
• Soils that have a thin fragic layer less than 60 percent brittle

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited (fig. 4)
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.
• Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
• Subsurface tile drains and land shaping help remove excess water.

Figure 4.—Fescue and white clover hay on Dickson silt loam, 1 to 4 percent slopes. Crop rotations that include pasture and hay are good management practices.

• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field and limiting line depth help overcome restricted permeability.
• Specially designed systems may be needed.
• Curtain drains and land shaping help remove excess water.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.

DkC2—Dickson silt loam, 4 to 8 percent slopes, eroded

Setting

Landscape position: Divides of the Highland Rim
Local landform: Divide
Shape of areas: Irregular
Size of areas: 5 to 30 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 2.5 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 20 inches—yellowish brown and light yellowish brown silt loam
20 to 38 inches—yellowish brown silt loam; very firm fragipan
38 to 60 inches—yellowish red silty clay loam

Inclusions

Contrasting inclusions:
- Mountview soils in the higher areas
- Tarklin soils in areas near drainageways

Similar inclusions:
- Soils that have a thin fragic layer that is less than 60 percent brittle

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
- Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
- Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
- Subsurface tile drains and land shaping help remove excess water.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Increasing the size of the absorption field and limiting line depth help overcome restricted permeability.
- Specially designed systems may be needed.
- Curtain drains and land shaping help remove excess water.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.

Ea—Eagleville silty clay loam, occasionally flooded

Setting

Landscape position: Flood plains of the Nashville Basin

Shape of areas: Elongated
Size of areas: 5 to 37 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow to very slow
Available water capacity: Moderate to low
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: 1 to 1.5 feet; December-March
Flooding: Occasional; very brief; December-March

Typical Profile

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

Subsurface layer:
4 to 14 inches—very dark brown silty clay loam

Subsoil:
14 to 22 inches—dark grayish brown clay

Underlying material:
22 to 26 inches—limestone rock

Inclusions

Contrasting inclusions:
- Egam soils
- Soils that have less clay and are better drained

Similar inclusions:
- Soils that have a surface layer lighter in color
- Soils that have a loamy overwash layer on the surface

Use and Management

Cropland

Suitability: Suited
Management measures:
- Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
- Selection of crops or varieties should take into account the seasonal high water table, which may delay planting and harvesting in some years.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 3w

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.
- Deep-rooted plants such as alfalfa should be avoided.
- Only grasses and legumes that tolerate seasonal wetness should be selected.

Woodland

Suitability: Suited
Management measures:
- Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
- Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.
- Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—flood hazard, depth to rock, slow permeability, wetness
Management measures:
- Other sites should be considered.

Eg—Egam silty clay loam, occasionally flooded

Setting

Landscape position: Flood plains of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 185 acres
Major use: Cropland and pasture

Soil Properties and Qualities

Drainage class: Well drained or moderately well drained
Permeability: Moderately slow
Available water capacity: High
Soil reaction: Moderately acid to moderately alkaline
Depth to bedrock: More than 60 inches
Seasonal high water table: 3 to 4 feet; December-March
Flooding: Occasional; very brief; December-March

Typical Profile

Surface layer:
0 to 9 inches—dark brown silty clay loam

Subsurface layer:
9 to 39 inches—very dark grayish brown silty clay

Subsoil:
39 to 50 inches—very dark grayish brown clay

Underlying material:
50 to 66 inches—brown very gravelly clay
66 to 79 inches—dark yellowish brown clay

Inclusions

Contrasting inclusions:
- Arrington soils
- Eagleville soils
- Ocana soils

Similar inclusions:
- Soils with a surface layer lighter in color
- Soils that contain slightly more gravel throughout
- Soils that have a loamy overwash surface layer

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

Woodland

Suitability: Well suited
Management measures:
- Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
- Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited—flood hazard
Management measures:
- Other sites should be considered.

EtC—Etowah gravelly silt loam, 5 to 12 percent slopes

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 40 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches

Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsurface layer:
7 to 11 inches—brown gravelly silt loam

Subsoil:
11 to 18 inches—reddish brown silt loam
18 to 40 inches—yellowish red silty clay loam
40 to 60 inches—red silty clay loam

Inclusions

Contrasting inclusions:
- Waynesboro soils

Similar inclusions:
- Soils with less gravel in the surface layer
- Areas that are more eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Install field lines across the slope on the contour.
- Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

EtD2—Etowah gravelly silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Elongated or irregular
Size of areas: 5 to 95 acres
Major use: Pasture and woodland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsurface layer:
7 to 11 inches—dark brown gravelly silt loam

Subsoil:
11 to 17 inches—reddish brown silt loam
17 to 24 inches—yellowish red silty clay loam
24 to 40 inches—red clay loam
40 to 80 inches—red clay

Inclusions

Contrasting inclusions:
- Talbott soils
- Waynesboro soils

Similar inclusions:
- Soils with surface layers that contain less gravel
- Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited to poorly suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited to poorly suited
Management measures:
- Install field lines across the slope on the contour.
- Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

EtE2—Etowah gravelly silt loam, 20 to 35 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Elongated or irregular
Size of areas: 10 to 200 acres
Major use: Woodland or pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate

Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsurface layer:
7 to 11 inches—dark brown gravelly silt loam

Subsoil:
11 to 17 inches—reddish brown silt loam
17 to 24 inches—yellowish red silty clay loam
24 to 40 inches—red clay loam
40 to 80 inches—red clay

Inclusions

Contrasting inclusions:
- Talbott soils in the higher areas
- Waynesboro soils

Similar inclusions:
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Other sites should be considered because of the slope and erosion hazard.

Land capability classification: 6e

Pasture and hay

Suitability: Suited to pasture and poorly suited to hay
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Special care is needed in the operation of farm equipment on the steep slopes.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Install field lines across the slope on the contour.
- Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

GpE—Gilpin stony loam, 20 to 40 percent slopes

Setting

Landscape position: Mountainsides of Short Mountain
Local landform: Mountain slope
Shape of areas: Elongated
Size of areas: 6 to 35 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: Low to moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 2 inches—dark brown stony loam

Subsoil:
2 to 5 inches—dark yellowish brown channery loam
5 to 12 inches—yellowish brown channery loam
12 to 25 inches—strong brown channery silty clay loam

Underlying material:
25 to 31 inches—reddish yellow very channery silty clay loam
31 to 45 inches—olive brown weathered shale

Inclusions

Contrasting inclusions:
- Jefferson soils
- Soils with more clay in the subsoil

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Other sites should be considered because of the slope and erosion hazard.

Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
- Because of the difficulties presented by surface stones and rock outcrop, extra care is required when implementing management practices and operating farm equipment.
- Deep-rooted plants such as alfalfa should be avoided.
- Other sites should be considered.

Woodland

Suitability: Suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Care must be taken to avoid problems associated with steepness of slope, the main limitation of this map unit.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Poorly suited
Management measures:
- Anti-erosion measures should be implemented where deep cuts likely to expose bedrock are needed to provide essentially level building sites.
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—slope, depth to rock
Management measures:
- Other sites should be considered.

GrE2—Gladdice-Rock outcrop complex, 15 to 35 percent slopes, eroded

Composition

Gladdice soil and similar inclusions: 50 to 60 percent
Rock outcrop: 35 to 45 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 125 acres
Major use: Unimproved pasture and grazed woodland

Soil Properties and Qualities of the Gladdice Soil

Drainage class: Well drained
Permeability: Moderately slow to slow
Available water capacity: Low to moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 20 to 40 inches

Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Typical Profile of the Gladdice Soil

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

Subsoil:
7 to 27 inches—dark yellowish brown clay
27 to 29 inches—olive brown clay

Underlying material:
29 to 33 inches—limestone rock

Inclusions

Contrasting inclusions:
- Barfield soils and other soils less than 20 inches to rock
- Dellrose soils on head slopes
- Mimosa soils

Similar inclusions:
- Ashwood soils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Not suited
Management measures:
- Because of the rock outcrop, slope, and erosion hazard, this soil should not be used for cropland.
- Other sites should be considered.

Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
- Special attention is required when implementing management practices and operating farm equipment because of the difficulties posed by rock outcrop.
- Deep-rooted plants such as alfalfa should be avoided.
- Plant selection should focus on adapted plants and varieties.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping and herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Because of rock outcrop and steep slopes, careful selection of equipment to be used in forest management can prevent erosion and increase safety.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
- Avoiding areas of rock outcrop that might hinder yarding can also prevent breakage of timber.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.
- Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Other sites should be considered.

GrF2—Gladdice-Rock outcrop complex, 35 to 60 percent slopes, eroded

Composition

Gladdice soil and similar inclusions: 50 to 60 percent
Rock outcrop: 35 to 45 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 260 acres
Major use: Unimproved pasture and grazed woodland

Soil Properties and Qualities of the Gladdice Soil

Drainage class: Well drained
Permeability: Moderately slow to slow
Available water capacity: Low to moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Typical Profile of the Gladdice Soil

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

Subsoil:
7 to 27 inches—dark yellowish brown clay
27 to 29 inches—olive brown clay

Underlying material:
29 to 33 inches—limestone rock

Inclusions

Contrasting inclusions:
- Barfield soils and other soils less than 20 inches to rock
- Mimosa soils

Similar inclusions:
- Ashwood soils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Not suited
Management measures:
- Because of the rock outcrop, slope, and erosion hazard of this soil, other sites should be considered for cropland.

Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
- Special attention is required when implementing management practices and operating farm equipment because of the difficulties posed by rock outcrop.
- Deep-rooted plants such as alfalfa should be avoided.
- Plant selection should focus on adapted plants and varieties.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping and herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Because of rock outcrop and steep slopes, careful selection of equipment to be used in forest management can prevent erosion and increase safety.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
- Avoiding areas of rock outcrop that might hinder yarding can also prevent breakage of timber.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such

as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.
• Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Other sites should be considered.

GvC—Gladeville-Rock outcrop complex, 2 to 20 percent slopes

Composition

Gladeville soil and similar inclusions: 60 to 75 percent
Rock outcrop: 10 to 25 percent

Setting

Landscape position: Divides and hillsides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 85 acres
Major use: Unimproved pasture and woodland

Soil Properties and Qualities of the Gladeville Soil

Drainage class: Well drained
Permeability: Moderately slow to slow
Available water capacity: Very low
Soil reaction: Neutral to moderately alkaline
Depth to bedrock: 3 to 12 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops of limestone in bands on the contour, extending from 0 to 1.5 feet above the surface.

Typical Profile of the Gladeville Soil

Surface layer:
0 to 4 inches—dark brown flaggy silty clay loam

Subsurface layer:
4 to 8 inches—dark brown very flaggy clay

Underlying material:
8 to 12 inches—limestone rock

Inclusions

Contrasting inclusions:
• Barfield soils
• Talbott soils
• Soils that are moderately well drained to somewhat poorly drained along drainageways

Similar inclusions:
• Soils that have surface layers that are lighter in color
• Soils that contain slightly fewer rock fragments throughout

Use and Management

Cropland

Suitability: Not suited—rock outcrop and droughtiness
Management measures:
• Other sites should be considered.
Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pastureland and not suited to hay—rock outcrop and droughtiness
Management measures:
• Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
• Special care must be taken because rock outcrop may restrict methods of site preparation and hinder the use of equipment in harvesting operations.

Dwellings

Suitability: Poorly suited—rock outcrop and depth to bedrock
Management measures:
• Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to bedrock

Management measures:
• Other sites should be considered.

Gw—Guthrie silt loam, ponded

Setting

Landscape position: Slight depressions at head of drainageways of the Highland Rim
Shape of areas: Irregular or oval
Size of areas: 5 to 160 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Poorly drained
Permeability: Slow or very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: Ponded; December-May
Flooding: None

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam

Subsurface layer:
4 to 8 inches—light brownish gray silt loam

Subsoil:
8 to 20 inches—gray silt loam
20 to 25 inches—gray silt loam; firm fragipan
25 to 53 inches—gray and light gray silty clay loam; firm fragipan
53 to 61 inches—light gray gravelly silty clay loam; very firm fragipan

Inclusions

Contrasting inclusions:
• Lee soils near drainageways
• Taft soils near the edge of map units and in the higher areas

Similar inclusions:
• Areas more than 40 inches deep to the fragipan
• Soils that have a gravelly fragipan
• Soils that have subsoils not more than 60 percent brittle in some layer
• Areas that have been drained

Use and Management

Cropland

Suitability: Unsuited or poorly suited
Management measures:
• Because seasonal wetness, including ponding on the surface, delays or prevents planting and harvesting of most crops, other sites should be considered.
• In fringe areas, where ponding is less common, select crops that have a short growing season and are adapted to seasonal wetness.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
Land capability classification: 5w

Pasture and hay

Suitability: Poorly suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.
• Only plants that tolerate seasonal inundation and wetness should be selected.

Woodland

Suitability: Suited to water-tolerant species
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.

Dwellings

Suitability: Not suited—wetness
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—wetness

Management measures:
- Other sites should be considered.

HaC2—Hampshire silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Hillsides and hilltops of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 15 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate or high
Soil reaction: Strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 13 inches—strong brown silty clay loam
13 to 40 inches—strong brown clay

Underlying material:
40 to 50 inches—strong brown very channery loam
50 to 65 inches—soft interbedded siltstone, sandstone, and limestone

Inclusions

Contrasting inclusions:
- Inman soils
- Mimosa soils in the higher areas

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- Tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform with the natural slope.
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Installation of field lines across the slope on the contour is advisable.
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

HaD2—Hampshire silt loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 20 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: Moderate to high
Soil reaction: Strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 13 inches—strong brown silty clay loam
13 to 40 inches—strong brown clay

Underlying material:
40 to 50 inches—strong brown very channery loam
50 to 65 inches—soft, interbedded siltstone, sandstone, and limestone

Inclusions

Contrasting inclusions:
• Inman soils
• Mimosa soils in the higher areas

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• Tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked

equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Installation of field lines across the slope on the contour is advisable.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

HbD—Hawthorne gravelly silt loam, 5 to 20 percent slopes

Setting

Landscape position: Ridgetops of the Highland Rim
Shape of areas: Narrow and elongated or oval
Size of areas: 5 to 20 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 3 inches—brown gravelly silt loam

Subsurface layer:
3 to 8 inches—brown very gravelly silt loam

Subsoil:
8 to 21 inches—light yellowish brown very gravelly and extremely gravelly silt loam

Underlying material:
21 to 25 inches—light yellowish brown extremely channery silt loam
25 to 30 inches—thinly bedded, fractured, weathered siltstone and unweathered chert with seams of very pale brown silt loam

Inclusions

Contrasting inclusions:
• Sugargrove soils in the less severely sloped areas

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Other sites should be considered.
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
Land capability classification: 6s

Pasture and hay

Suitability: Poorly suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Plants that can tolerate droughty conditions should be selected.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.

Dwellings

Suitability: Suited to poorly suited
Management measures:
• Caution must be exercised where excavations for building sites expose bedrock.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Other sites should be considered.

HbF—Hawthorne gravelly silt loam, 30 to 60 percent slopes

Setting

Landscape position: Ridges of the Highland Rim
Shape of areas: Narrow, elongated, meandering
Size of areas: 5 to more than 1,000 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Available water capacity: Low
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 3 inches—brown gravelly silt loam

Subsurface layer:
3 to 8 inches—brown very gravelly silt loam

Subsoil:
8 to 21 inches—light yellowish brown very gravelly and extremely gravelly silt loam

Underlying material:
21 to 25 inches—light yellowish brown extremely channery silt loam
25 to 30 inches—thinly bedded, fractured, weathered siltstone and unweathered chert with thin seams of very pale brown silt loam

Inclusions

Contrasting inclusions:
• Dellrose soils in the lower areas and on head slopes
• Sugargrove soils on summits of ridges
• Soils less than 20 inches to rock with chert beds exposed on nose slopes and shoulders

Similar inclusions:
• Soils over hard bedrock
• The less severely sloped areas on summits of ridges

Use and Management

Cropland

Suitability: Not suited
Management measures:
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
• Other sites should be considered.
Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture and not suited to hay
Management measures:
• Because of very steep slopes and soil properties, special care must be taken when implementing management practices or operating farm machinery.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
• Plants that can tolerate droughty conditions should be selected.
• Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Chopping and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Care must be taken to avoid problems associated with steepness of slope, the main limitation of this map unit.
• Harvesting methods such as cable yarding systems

are safer, reduce damage to the soil, and help maintain productivity.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to rock and slope
Management measures:
• Other sites should be considered.

InC2—Inman flaggy silty clay loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Hillsides and hilltops of the Nashville Basin
Shape of areas: Oval or elongated
Size of areas: 5 to 20 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
5 to 25 inches—light olive brown flaggy clay

Underlying material:
25 to 29 inches—soft weathered bedrock

Inclusions

Contrasting inclusions:
• Soils more than 40 inches deep to rock

Similar inclusions:
• Areas that contain slightly fewer fragments
• Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited to poorly suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Caution must be exercised where excavations for building sites expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Specially designed systems may be needed.
• Other sites should be considered.

InD2—Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 55 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
5 to 25 inches—light olive brown flaggy clay

Underlying material:
25 to 29 inches—soft weathered bedrock

Inclusions

Contrasting inclusions:
• Soils that are more than 40 inches deep to rock

Similar inclusions:
• Soils that contain slightly fewer rock fragments throughout
• Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
• Other sites should be considered.
Land capability classification: 6e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Caution must be exercised where excavations for building sites expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Other sites should be considered.

InE2—Inman flaggy silty clay loam, 20 to 35 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 75 acres
Major use: Unimproved pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
7 to 24 inches—light olive brown flaggy clay

Underlying material:
24 to 29 inches—soft weathered bedrock

Inclusions

Contrasting inclusions:
• Soils more than 40 inches deep to rock

Similar inclusions:
• Areas with slightly fewer rock fragments
• Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
• Other sites should be considered.
Land capability classification: 7e

Pasture and hay

Suitability: Poorly suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.
• Care must be taken to operate farm machinery safely on the steep slopes.

Woodland

Suitability: Poorly suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.

• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Caution must be exercised where excavations for building sites expose bedrock.
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

InE3—Inman flaggy clay, 12 to 35 percent slopes, severely eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 320 acres
Major use: Unimproved pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: Less than 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 3 inches—dark yellowish brown flaggy clay

Subsoil:
3 to 16 inches—yellowish brown and light olive brown flaggy clay
16 to 28 inches—light olive brown thinly bedded, soft, fractured rock and clay

Underlying material:
28 to 34 inches—light olive brown thinly bedded, soft, fractured bedrock

Inclusions

Contrasting inclusions:
• Barfield soils in the higher or lower areas
• Hampshire soils

Similar inclusions:
• Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
• Other sites should be considered.
Land capability classification: 7e

Pasture and hay

Suitability: Poorly suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.
• Care must be taken to operate farm machinery safely on the steep slopes.

Woodland

Suitability: Poorly suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.

• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—slope, depth to rock, slow percolation
Management measures:
• Other sites should be considered.

JNF—Jefferson and Nella stony loams, 20 to 60 percent slopes

Composition

Jefferson soil and similar inclusions: 50 to 60 percent
Nella soil and similar inclusions: 30 to 40 percent

Setting

Landscape position: Mountainsides of the Short Mountain area
Shape of areas: Irregular
Size of areas: 5 to 320 acres
Major use: Woodland

Soil Properties and Qualities of the Jefferson Soil

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Soil Properties and Qualities of the Nella Soil

Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile of the Jefferson Soil

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

Subsoil:
7 to 18 inches—dark yellowish brown cobbly loam
18 to 36 inches—dark yellowish brown cobbly loam
36 to 61 inches—brown very stony clay loam
61 to 80 inches—yellowish brown very cobbly loam

Typical Profile of the Nella Soil

Surface layer:
0 to 4 inches—dark brown stony loam

Subsoil:
4 to 10 inches—yellowish brown cobbly loam
10 to 17 inches—strong brown cobbly loam
17 to 24 inches—yellowish red cobbly clay loam
24 to 80 inches—yellowish red and red stony clay loam

Inclusions

Contrasting inclusions:
• Soils less than 60 inches deep to rock on shoulders and nose slopes
• Soils with more clay in the subsoil on nose slopes
• Soils with more stones throughout and boulders on the surface in the higher areas

Similar inclusions:
• Soils with slightly less gravel and stones throughout
• Areas that are less sloping on benches

Use and Management

Cropland

Suitability: Not suited—erosion hazard, slope, and stones
Management measures:
• Other sites should be considered.
Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture and not suited to hay—slope and stones

Management measures:
• Because of large stones on the surface and steep slopes, special care must be taken when implementing management practices and operating farm equipment.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soils from erosion.
• Other sites should be considered.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Herbicide application reduces immediate plant competition.
• Because of large stones and steep slopes, careful consideration must be given to the kinds of equipment to be used in management.
• Limiting the operation of standard-wheeled and tracked equipment when the soils are wet reduces rutting and compaction.
• Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soils, and help maintain productivity.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Poorly suited
Management measures:
• Land shaping may be needed.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to identify areas most suitable for placement of septic tank filter fields.
• Installing field lines across the slope and land shaping help reduce lateral seepage.
• Other sites should be considered.

Le—Lee silt loam, ponded

Setting

Landscape position: Slight depressions at the heads of drainageways and on flood plains of the Highland Rim
Shape of areas: Elongated, irregular
Size of areas: 5 to 40 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Poorly drained
Permeability: Moderate
Available water capacity: Moderate to high
Soil reaction: Very strongly acid to slightly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: Ponded; December-May
Flooding: Occasional; very brief; December-March

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam

Subsurface layer:
4 to 7 inches—grayish brown silt loam

Subsoil:
7 to 16 inches—gray silt loam
16 to 32 inches—gray gravelly silt loam

Underlying material:
32 to 65 inches—gray very gravelly loam

Inclusions

Contrasting inclusions:
• Lobelville soils
• Soils with a fragipan

Similar inclusions:
• Soils that contain less gravel throughout
• Soils with surface layers darker in color

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the potential for flooding or ponding, sensible management decisions must be made with regard to cultivated crops.
• Selection of crops or varieties should take into

account the seasonal high water table, which may delay planting and harvesting in some years.
Land capability classification: 5w

Pasture and hay

Suitability: Poorly suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.
• Only grasses and legumes that tolerate seasonal inundation and wetness should be selected.

Woodland

Suitability: Suited
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.

Dwellings

Suitability: Not suited—flood hazard and wetness
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—flood hazard and wetness
Management measures:
• Other sites should be considered.

Ln—Lindell silt loam, occasionally flooded

Setting

Landscape position: Flood plains of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 70 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Moderately acid to slightly alkaline
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.7 to 2.5 feet; December-March
Flooding: Occasional; very brief; December-March

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 15 inches—brown silt loam
15 to 22 inches—dark yellowish brown silt loam
22 to 29 inches—brown clay loam
29 to 34 inches—gray clay loam

Underlying material:
34 to 65 inches—pale brown gravelly clay loam

Inclusions

Contrasting inclusions:
• Arrington soils
• Ocana soils
• Soils that are somewhat poorly drained

Similar inclusions:
• Soils with slightly more gravel
• Soils with a surface layer that is darker in color

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the

pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

Lo—Lobelville silt loam, occasionally flooded

Setting

Landscape position: Flood plains of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 325 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Moderate to high
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.7 to 2.5 feet; December-April
Flooding: Occasional; very brief; December-April

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 22 inches—brown silt loam
22 to 30 inches—brown loam
30 to 33 inches—gray gravelly loam

Underlying material:
33 to 60 inches—gray very gravelly loam

Inclusions

Contrasting inclusions:
• Soils that are well drained
• Soils that are somewhat poorly drained
• Soils that are less than 60 inches to rock

Similar inclusions:
• Soils that contain slightly less gravel in the subsoil

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
• Selection of crops or varieties should take into account the seasonal high water table, which may delay planting and harvesting in some years.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

Woodland

Suitability: Well suited
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.

• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

Lv—Lobelville gravelly silt loam, frequently flooded

Setting

Landscape position: Flood plains of the Highland Rim
Shape of areas: Elongated
Size of areas: 35 to 1,000 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.7 to 2.5 feet; December-April
Flooding: Frequent; very brief; December-April

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown gravelly silt loam

Subsoil:
4 to 24 inches—brown gravelly silt loam
24 to 31 inches—light brownish gray gravelly loam

Underlying material:
31 to 62 inches—light brownish gray extremely gravelly loam

Inclusions

Contrasting inclusions:
• Soils that are well drained
• Soils that are somewhat poorly drained
• Soils that are less than 60 inches to rock

Similar inclusions:
• Areas that flood less frequently

Use and Management

Cropland

Suitability: Suited or poorly suited
Management measures:
• Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
• Selection of crops or varieties should take into account the seasonal high water table, which may delay planting and harvesting in some years.
• To avoid the hazard of flooding, planting crops later in spring is recommended.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
Land capability classification: 3w

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

Woodland

Suitability: Suited
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

LwC—Lonewood silt loam, 4 to 12 percent slopes

Setting

Landscape position: Mountaintops of the Short Mountain area
Shape of areas: Irregular-elongated
Size of areas: 5 to 50 acres
Major use: Pasture and woodland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 2 inches—dark brown silt loam

Subsurface layer:
2 to 7 inches—yellowish brown silt loam

Subsoil:
7 to 33 inches—strong brown silt loam and loam
33 to 52 inches—yellowish red clay loam

Underlying material:
52 to 56 inches—reddish yellow sandstone

Inclusions

Contrasting inclusions:
• Soils less than 40 inches to rock

Similar inclusions:
• Soils that are redder in the subsoil

Use and Management

Cropland

Suitability: Suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Caution must be exercised where excavations for building sites expose bedrock.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas

of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
• Installation of field lines across the slope on the contour is advisable.
• Onsite investigation may be needed to determine the most suitable areas for placement of septic tank filter fields.

MmC2—Mimosa silty clay loam, 3 to 12 percent slopes, eroded

Setting

Landscape position: Hilltops and hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 25 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
7 to 22 inches—strong brown clay
22 to 47 inches—yellowish brown and light olive brown clay

Underlying material:
47 to 51 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Gladdice soils
• Hampshire soils in the lower areas
• Sykes soils

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• Tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa should be avoided.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Installation of field lines across the slope on the contour is advisable.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

MmD2—Mimosa silty clay loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 65 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Very strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
7 to 22 inches—strong brown clay
22 to 47 inches—yellowish brown and light olive brown clay

Underlying material:
47 to 51 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Gladdice soils
• Hampshire soils in the lower areas

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the slope, soil properties, and erosion hazard, this soil should not be used for cropland.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 6e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

MrC—Mimosa-Rock outcrop complex, 3 to 15 percent slopes

Composition

Mimosa soil and similar inclusions: 65 percent
Rock outcrop: 20 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated or irregular
Size of areas: 5 to 20 acres
Major use: Woodland or unimproved pasture

Soil Properties and Qualities of the Mimosa Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Strongly acid to moderately acid
Depth to bedrock: 40 to 60 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Typical Profile of the Mimosa Soil

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

Subsoil:
7 to 22 inches—strong brown clay
22 to 47 inches—yellowish brown and light olive brown clay

Underlying material:
47 to 51 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Gladdice soils

Use and Management

Cropland

Suitability: Not suited
Management measures:
• Because of the slope, rock outcrop, soil properties, and erosion hazard of this soil, other sites should be considered for cropland.
Land capability classification: 6s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
• Special attention is required in implementing management practices because of the difficulties posed by rock outcrop.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Chopping and herbicide application reduce immediate plant competition.
• Avoiding areas of rock outcrop that might hinder yarding can also prevent breakage of timber.
• Special care must be taken because rock outcrop may restrict methods of site preparation and hinder the use of equipment in harvesting operations.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.

• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Because some areas provide little cover over bedrock, landscaping with additional fill may be required.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.
• Other sites should be considered.
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.

MsB—Monongahela silt loam, 1 to 5 percent slopes

Setting

Landscape position: Stream terraces of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 40 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 2.5 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 24 inches—yellowish brown silt loam
24 to 58 inches—light yellowish brown and brownish yellow loam; very firm fragipan

Underlying material:
58 to 74 inches—brownish yellow loam

Inclusions

Contrasting inclusions:
• Taft soils in the lower areas
• Tarklin soils

Similar inclusions:
• Soils that are less than 60 percent brittle within the fragipan

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.
• Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited

Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
• Subsurface tile drains and land shaping help remove excess water.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Curtain drains and land shaping help remove excess water.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.

MtB—Mountview silt loam, 2 to 5 percent slopes

Setting

Landscape position: Broad divides of the Highland Rim
Shape of areas: Irregular
Size of areas: 5 to 375 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown silt loam

Subsoil:
8 to 27 inches—yellowish brown silt loam
27 to 32 inches—yellowish red silty clay loam
32 to 60 inches—yellowish red clay
60 to 75 inches—red clay

Inclusions

Contrasting inclusions:
• Dickson soils
• Christian soils on shoulders and nose slopes
• Sugargrove soils in the more sloping areas near the edge of the map unit
• Soils that have a thin fragic layer that is less than 60 percent brittle

Similar inclusions:
• Bewleyville soils
• Areas that are more eroded

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited (fig. 5)
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.

Figure 5.—Fescue and white clover on Mountview silt loam, 2 to 5 percent slopes. This soil is well suited to most grasses and legumes.

• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Well suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.

MtC2—Mountview silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Divides and ridges of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 105 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 5 inches—brown silt loam

Subsoil:
5 to 24 inches—yellowish brown silt loam
24 to 72 inches—red clay

Inclusions

Contrasting inclusions:
- Dickson soils
- Christian soils on shoulders and nose slopes
- Sugargrove soils in the more sloping areas near the edge of the map unit
- Soils with a thin fragic layer that is less than 60 percent brittle

Similar inclusions:
- Bewleyville soils
- Soils that contain slightly more gravel in the upper part
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Using standard-wheeled and tracked equipment when the soil is wet causes rutting and compaction.
- Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Installation of field lines across the slope on the contour is advisable.
- Increasing the size of the absorption field helps overcome restricted permeability.
- Construction of filter-field trench walls when the soil

is too wet should be avoided to prevent the walls from smearing and sealing.

Oc—Ocana gravelly silt loam, rarely flooded

Setting

Landscape position: Flood plains of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 125 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate to high
Soil reaction: Moderately acid to neutral
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: Rare

Typical Profile

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

Subsurface layer:
7 to 20 inches—brown gravelly silt loam

Subsoil:
20 to 38 inches—dark yellowish brown gravelly silt loam

Underlying material:
38 to 66 inches—dark yellowish brown gravelly silt loam

Inclusions

Contrasting inclusions:
- Armour soils in the higher areas
- Arrington soils
- Lindell soils in the lower areas

Similar inclusions:
- Soils with surface layers that are darker in color

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 2s

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Although flooding is rare, measures must be taken to protect absorption fields from high water.

On—Ocana gravelly silt loam, occasionally flooded

Setting

Landscape position: Flood plains of the Nashville Basin
Shape of areas: Elongated
Size of areas: 8 to 100 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate to high
Soil reaction: Moderately acid to neutral
Depth to bedrock: More than 60 inches

Seasonal high water table: None
Flooding: Occasional; very brief; December-March

Typical Profile

Surface layer:
0 to 8 inches—brown gravelly silt loam

Subsurface layer:
8 to 24 inches—brown gravelly silt loam

Subsoil:
24 to 45 inches—dark yellowish brown gravelly silt loam and gravelly loam

Underlying material:
45 to 72 inches—dark yellowish brown very gravelly clay loam

Inclusions

Contrasting inclusions:
- Arrington soils
- Lindell soils in the lower areas

Similar inclusions:
- Soils with surface layers darker in color

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Because of the potential for flooding, sensible management decisions must be made with regard to cultivated crops.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Using standard-wheeled and tracked equipment when the soil is moist causes rutting and compaction.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited—flood hazard
Management measures:
- Other sites should be considered.

Pt—Pits, quarry

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 35 to 78 acres
Major use: Stone

Properties and Qualities

This map unit is made up of limestone quarries consisting of pits and stockpiles of crushed stone.

Use and Management

Cropland

Suitability: Not suited
Management measures:
- Other sites should be considered.

Pasture and hay

Suitability: Not suited
Management measures:
- Other sites should be considered.

Woodland

Suitability: Not suited
Management measures:
- Other sites should be considered.

Dwellings

Suitability: Not suited
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited

Management measures:
- Other sites should be considered.

RoC—Rock outcrop-Barfield-Ashwood complex, 5 to 15 percent slopes

Composition

Rock outcrop: 30 to 50 percent
Barfield soil and similar inclusions: 25 to 40 percent
Ashwood soil and similar inclusions: 10 to 20 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Oval or elongated
Size of areas: 5 to 30 acres
Major use: Woodland or unimproved pasture

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Soil Properties and Qualities of the Barfield Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Slightly acid to moderately alkaline
Depth to bedrock: 8 to 20 inches
Seasonal high water table: None
Flooding: None

Soil Properties and Qualities of the Ashwood Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile of the Barfield Soil

Surface layer:
0 to 10 inches—very dark grayish brown silty clay loam

Subsoil:
10 to 16 inches—dark yellowish brown clay

Underlying material:
16 to 20 inches—limestone bedrock

Typical Profile of the Ashwood Soil

Surface layer:
0 to 12 inches—very dark grayish brown silty clay loam

Subsoil:
12 to 36 inches—yellowish brown clay

Underlying material:
36 to 40 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Mimosa soils
- Gladeville soils near rock outcrop

Similar inclusions:
- Soils that have a lighter or thinner surface layer than that of the Ashwood and Barfield soils
- Areas that are more eroded

Use and Management

Cropland

Suitability: Not suited—rock outcrop, soil properties, and erosion hazard
Management measures:
- Other sites should be considered.

Land capability classification: 6s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
- Special attention is required in implementing management practices because of the difficulties posed by rock outcrop.
- Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping and herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier or planting at a higher rate can reduce seedling mortality.
- Special care must be taken because rock outcrop may restrict methods of site preparation and hinder the use of equipment in harvesting operations.
- Avoiding use of standard-wheeled and tracked equipment when the soils are wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Caution must be exercised where excavations for building sites expose bedrock.
- Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to rock, slow percolation
Management measures:
- Other sites should be considered.

RoE2—Rock outcrop-Barfield-Ashwood complex, 15 to 35 percent slopes, eroded

Composition

Rock outcrop: 30 to 50 percent
Barfield soil and similar inclusions: 25 to 40 percent
Ashwood soil and similar inclusions: 10 to 20 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 10 to more than 500 acres
Major use: Woodland or unimproved pasture

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Soil Properties and Qualities of the Barfield Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Slightly acid to moderately alkaline
Depth to bedrock: 8 to 20 inches
Seasonal high water table: None
Flooding: None

Soil Properties and Qualities of the Ashwood Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile of the Barfield Soil

Surface layer:
0 to 6 inches—very dark grayish brown silty clay loam

Subsoil:
6 to 16 inches—very dark grayish brown and dark yellowish brown clay

Underlying material:
16 to 20 inches—limestone rock

Typical Profile of the Ashwood Soil

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

Subsurface layer:
4 to 11 inches—very dark grayish brown silty clay loam

Subsoil:
11 to 14 inches—brown clay
14 to 35 inches—yellowish brown clay

Underlying material:
35 to 39 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Gladeville soils near rock outcrop
- Mimosa soils
- Talbott soils in areas on slopes below the Inman soils

Similar inclusions:
- Soils that have a lighter or thinner surface layer than that of the Ashwood and Barfield soils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Not suited—rock outcrop, soil properties, and slope
Management measures:
- Other sites should be considered.

Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay—rock outcrop and slope
Management measures:
- Other sites should be considered.
- Special attention is required when implementing management practices and operating farm equipment because of the difficulties posed by rock outcrop.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping or herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Special care must be taken because rock outcrop may restrict methods of site preparation, cause breakage of timber, and hinder the use of equipment in harvesting operations.
- Limiting the operation of standard-wheeled and tracked equipment when the soils are wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soils, and help maintain productivity.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Not suited—rock outcrop and slope
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to bedrock, slow percolation, and slope
Management measures:
- Other sites should be considered.

RoF—Rock outcrop-Barfield-Ashwood complex, 35 to 60 percent slopes

Composition

Rock outcrop: 30 to 50 percent
Barfield soil and similar inclusions: 25 to 40 percent
Ashwood soil and similar inclusions: 10 to 20 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 150 acres
Major use: Woodland

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 0.5 foot to 3 feet above the surface.

Soil Properties and Qualities of the Barfield Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Slightly acid to moderately alkaline
Depth to bedrock: 8 to 20 inches
Seasonal high water table: None
Flooding: None

Soil Properties and Qualities of the Ashwood Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Moderate
Soil reaction: Moderately acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile of the Barfield Soil

Surface layer:
0 to 10 inches—very dark grayish brown silty clay loam

Subsoil:
10 to 16 inches—dark yellowish brown clay

Underlying material:
16 to 20 inches—limestone rock

Typical Profile of the Ashwood Soil

Surface layer:
0 to 12 inches—very dark grayish brown silty clay loam

Subsoil:
12 to 36 inches—yellowish brown clay

Underlying material:
36 to 40 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Gladeville soils near rock outcrop
- Mimosa soils

Similar inclusions:
- Soils with surface layers that are lighter or thinner than that of the Ashwood and Barfield soils
- Areas that are more eroded

Use and Management

Cropland

Suitability: Not suited—rock outcrop, soil properties, erosion hazard, and slope
Management measures:
- Other sites should be considered.

Land capability classification: 7s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay—rock outcrop and slope
Management measures:
- Because of rock outcrop and steep slopes, special care must be taken when implementing management practices or operating farm machinery.
- Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Chopping and herbicide application reduce immediate plant competition.
- Using special planting stock that is larger and sturdier can reduce seedling mortality.
- Because of rock outcrop and steep slopes, careful selection of equipment to be used in forest management can prevent erosion and increase safety.
- Limiting the use of standard-wheeled and tracked equipment when the soils are wet reduces rutting and compaction.
- Harvesting methods such as cable yarding systems are safer, reduce damage to the soils, and help maintain productivity.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.

Dwellings

Suitability: Not suited—rock outcrop, depth to rock, and slope
Management measures:
- Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—depth to rock, slow percolation, and slope
Management measures:
- Other sites should be considered.

Sa—Sango silt loam

Setting

Landscape position: Broad divides and heads of drainageways of the Highland Rim
Shape of areas: Irregular
Size of areas: 5 to 950 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 2.5 feet; January-April
Flooding: None

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 24 inches—light olive brown silt loam
24 to 48 inches—light olive brown silt loam; very firm fragipan
48 to 62 inches—brownish yellow very gravelly clay

Inclusions

Contrasting inclusions:
- Taft soils in low areas
- Soils less than 60 inches to rock

Similar inclusions:
- Dickson soils

Use and Management

Cropland

Suitability: Well suited

Management measures:
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Selection of crops or varieties should take into account the seasonal high water table, which may delay planting and harvesting in some years.
Land capability classification: 2w

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
• Plant selection should focus on adapted plants and varieties.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
• Subsurface tile drains and land shaping help remove excess water.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Curtain drains and land shaping help remove excess water.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Other sites should be considered.

SgC—Sugargrove gravelly silt loam, 5 to 12 percent slopes

Setting

Landscape position: Ridges of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 85 acres
Major use: Woodland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately rapid
Available water capacity: Moderate to high
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: 20 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 2 inches—brown gravelly silt loam

Subsurface layer:
2 to 7 inches—pale brown gravelly silt loam

Subsoil:
7 to 14 inches—light yellowish brown gravelly silt loam
14 to 37 inches—yellowish brown and strong brown gravelly silt loam
37 to 48 inches—strong brown channery silty clay loam

Underlying material:
48 to 54 inches—weathered bedrock

Inclusions

Contrasting inclusions:
• Christian soils in the higher areas
• Mountview soils in the less sloping higher areas
• Hawthorne soils in the more sloping lower areas
• Soils that have a thin fragic layer

Similar inclusions:
- Soils with red subsoils
- Areas that are more eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Care should be taken where excavations for building sites expose bedrock.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Installing field lines across the slope and land shaping help reduce lateral seepage.
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.

SgD—Sugargrove gravelly silt loam, 12 to 20 percent slopes

Setting

Landform: Hillsides and ridgetops of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 35 acres
Major use: Woodland and pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to moderately rapid
Available water capacity: Moderate to high
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: 20 to 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 2 inches—brown gravelly silt loam

Subsurface layer:
2 to 7 inches—pale brown gravelly silt loam

Subsoil:
7 to 14 inches—light yellowish brown gravelly silt loam
14 to 37 inches—yellowish brown and strong brown gravelly silt loam
37 to 48 inches—strong brown channery silty clay loam

Underlying material:
48 to 54 inches—weathered bedrock

Inclusions

Contrasting inclusions:
- Christian soils in the higher areas
- Hawthorne soils in the more sloping lower areas

Similar inclusions:
- Areas that are more eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Conducting planting and harvesting operations on the contour helps control erosion.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited to poorly suited
Management measures:
- Care should be taken where excavations for building sites expose bedrock.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited to poorly suited
Management measures:
- Onsite investigation may be needed to identify more suitable areas for placement of septic tank filter fields.
- Installation of field lines across the slope on the contour is advisable.

SkB—Sykes silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 50 acres
Major use: Cropland and pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 20 inches—brown silt loam

20 to 38 inches—strong brown silty clay loam
38 to 61 inches—yellowish brown clay

Inclusions

Contrasting inclusions:
- Bradyville soils
- Capshaw soils
- Soils that are moderately well drained

Similar inclusions:
- Armour soils
- Soils with red subsoils
- Soils that contain slightly more gravel in the upper part

Use and Management

Cropland

Suitability: Well suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Well suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Increasing the size of the absorption field helps overcome restricted permeability.
- Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.

SkC2—Sykes silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Stream terraces of the Nashville Basin
Shape of areas: Elongated
Size of areas: 5 to 25 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 26 inches—strong brown silt loam and silty clay loam
26 to 45 inches—strong brown clay
45 to 63 inches—yellowish brown clay

Underlying material:
63 to 67 inches—limestone rock

Inclusions

Contrasting inclusions:
- Bradyville soils
- Capshaw soils in the lower areas

Similar inclusions:
- Armour soils
- Soils that contain slightly more gravel in the upper part
- Areas that are less eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
- Establishment of cover on bare soil helps control erosion.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
- Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
- Increase the size of the absorption field to help overcome restricted permeability.
- Install field lines across the slope on the contour.
- Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

Ta—Taft silt loam

Setting

Landscape position: Heads of drainageways and divides of the Highland Rim
Shape of areas: Irregular
Size of areas: 5 to 250 acres
Major use: Pasture and cropland

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Slow or very slow within the fragipan
Available water capacity: Moderate
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1 to 1.5 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 21 inches—light yellowish brown silt loam
21 to 24 inches—light brownish gray silt loam
24 to 56 inches—light yellowish brown silt loam; very firm fragipan
56 to 79 inches—brownish yellow silty clay loam

Inclusions

Contrasting inclusions:
- Dickson soils in the higher areas
- Guthrie soils in the lower areas
- Sango soils

Similar inclusions:
- Soils with fragic layers that are less than 60 percent brittle

Use and Management

Cropland

Suitability: Suited
Management measures:
- Selection of crops or varieties should take into account the seasonal high water table, which may delay planting and harvesting in some years.
- Crops that have a short growing season and that are adapted to seasonal wetness should be selected.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

Land capability classification: 3w

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and restricted grazing during wet periods help keep the pasture in good condition.
- Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa and other plants with low tolerance for wetness, those crops should be avoided or used sparingly.
- Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
- Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
- Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
- Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.
- Using special planting stock that is larger and sturdier or planting at higher rates can reduce seedling mortality.

Dwellings

Suitability: Poorly suited
Management measures:
- Subsurface tile drains and land shaping help remove excess water.
- Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Other sites should be considered.

TbB2—Talbott silt loam, 2 to 5 percent slopes, eroded

Setting

Landscape position: Divides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 125 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low to moderate
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 7 inches—brown silt loam

Subsoil:
7 to 35 inches—yellowish red clay

Underlying material:
35 to 39 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Bradyville soils
- Capshaw soils

Similar inclusions:
- Soils with brown subsoils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff, increase moisture, and control erosion.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
- Deep-rooted plants such as alfalfa should be avoided.
- Plant selection should focus on adapted plants and varieties.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Caution must be exercised where excavations for building sites expose bedrock.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Increasing the size of the absorption field helps overcome restricted permeability.
- Specially designed systems may be needed.
- Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.
- Other sites should be considered.

TbC2—Talbott silty clay loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Divides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 120 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow

Available water capacity: Low to moderate
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown silty clay loam

Subsoil:
6 to 23 inches—yellowish red and strong brown clay
23 to 30 inches—yellowish brown clay

Underlying material:
30 to 34 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Bradyville soils
- Capshaw soils in the lower areas

Similar inclusions:
- Soils with brown subsoils
- Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Steps should be taken to limit soil erosion where cultivated crops are grown.
- No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
- Conservation practices should be intensified as slope steepness and slope length increase.
- Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
- Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.

Land capability classification: 4e

Pasture and hay

Suitability: Suited
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
- Deep-rooted plants such as alfalfa should be avoided.
- Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Caution must be exercised where excavations for building sites expose bedrock.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
- Increasing the size of the absorption field helps overcome restricted permeability.
- Specially designed systems may be needed.
- Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.
- Other sites should be considered.

TcC2—Talbott silt loam, 5 to 20 percent slopes, eroded, rocky

Composition

Talbott soil and similar inclusions: 75 to 85 percent
Rock outcrop: Less than 2 percent

Setting

Landform: Hillsides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 120 acres
Major use: Unimproved pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low to moderate
Soil reaction: Strongly acid to neutral
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

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

Subsoil:
5 to 24 inches—strong brown clay
24 to 27 inches—yellowish brown clay
27 to 29 inches—olive brown clay

Underlying material:
29 to 33 inches—limestone bedrock

Inclusions

Contrasting inclusions:
- Barfield soils
- Bradyville soils
- Capshaw soils in the lower, less severely sloped areas

Similar inclusions:
- Soils with subsoils browner than that of the Talbott soil

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
- Because of the slope, rock outcrop, soil properties, and erosion hazard of this soil, other sites should be considered for cropland.

Land capability classification: 6e

Pasture and hay

Suitability: Suited to pasture and poorly suited to hay
Management measures:
- Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
- Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
- Deep-rooted plants such as alfalfa should be avoided.
- Plant selection should focus on adapted plants and varieties.
- Because of rock outcrop, care must be exercised when implementing some management practices and when using haying equipment.

Woodland

Suitability: Suited
Management measures:
- Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
- Harrowing and herbicide application reduce immediate plant competition.
- Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
- Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
- Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
- Caution must be exercised where excavations for building sites expose bedrock.
- Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
- Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
- Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
- Onsite investigation is needed to determine the

extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Construction of filter-field trench walls when the soil is too wet should be avoided to prevent the walls from smearing and sealing.
• Other sites should be considered.

TcC3—Talbott clay, 5 to 20 percent slopes, severely eroded, rocky

Composition

Talbott soil and similar inclusions: 75 to 85 percent
Rock outcrop: Less than 2 percent

Setting

Landscape position: Hillsides of the Nashville Basin
Shape of areas: Irregular
Size of areas: 5 to 140 acres
Major use: Unimproved pasture and grazed woodland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: Less than 40 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 3 inches—dark yellowish brown clay

Subsoil:
3 to 12 inches—yellowish red clay
12 to 20 inches—strong brown and yellowish brown clay

Underlying material:
20 to 24 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Barfield soils
• Gladeville soils

Similar inclusions:
• Soils with brown subsoils
• Areas that are less eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Because of the slope, rock outcrop, soil properties, and erosion hazard of this soil, other sites should be considered for cropland.
Land capability classification: 6e

Pasture and hay

Suitability: Poorly suited
Management measures:
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.
• Deep-rooted plants such as alfalfa or plants that cannot tolerate droughty conditions should be avoided.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Suited
Management measures:
• Properly preparing the site and good maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishing cover on bare soil helps control erosion.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Caution must be exercised where excavations expose bedrock.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.

• Because some areas provide little cover over bedrock, landscaping with additional fill and topsoil may be required.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Other sites should be considered.

ToD—Talbott-Rock outcrop complex, 8 to 25 percent slopes

Composition

Talbott soil and similar inclusions: 40 to 60 percent
Rock outcrop and similar inclusions: 35 to 55 percent

Setting

Landform: Hilltops and hillsides of the Highland Rim
Shape of areas: Oval or irregular
Size of areas: 5 to 27 acres
Major use: Woodland

Soil Properties and Qualities of the Talbott Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low to moderate
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone on the contour, extending from 1 to 10 feet above the surface.

Typical Profile of the Talbott Soil

Surface layer:
0 to 4 inches—dark brown silt loam

Subsoil:
4 to 8 inches—reddish brown silty clay loam
8 to 30 inches—red clay
30 to 35 inches—yellowish brown clay

Underlying material:
35 to 39 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Barfield soils
• Soils more than 40 inches to rock

Similar inclusions:
• Soils that have brown subsoils

Use and Management

Cropland

Suitability: Not suited
Management measures:
• Because of the slope, rock outcrop, soil properties, and erosion hazard of this soil, other sites should be considered for cropland.
Land capability classification: 6s

Pasture and hay

Suitability: Poorly suited to pasture; not suited to hay
Management measures:
• Other sites should be considered.
• Special attention is required in implementing management practices because of the difficulties posed by rock outcrop.
• Deep-rooted plants such as alfalfa should be avoided.
• Plant selection should focus on adapted plants and varieties.
• Proper stocking rates, pasture rotation, and periodic mowing and clipping help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Poorly suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Chopping and herbicide application reduce immediate plant competition.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Avoiding areas of rock outcrop that might hinder yarding can also prevent breakage of timber.
• Special care must be taken because rock outcrop may restrict methods of site preparation and hinder the use of equipment in harvesting operations.

• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Poorly suited
Management measures:
• Anti-erosion measures should be implemented where deep cuts needed to provide essentially level building sites can expose bedrock.
• Good engineering and construction practices, such as reinforcement of foundations and proper compaction of fills, help prevent structural damage.
• Designing structures and facilities to fit the natural landscape helps overcome the limitations of slope and reduces the amount of cuts and fills.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.
• Because some areas provide little cover over bedrock, landscaping with additional fill may be required.
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—slope, depth to rock, and slow percolation
Management measures:
• Other sites should be considered.

ToF—Talbott-Rock outcrop complex, 35 to 70 percent slopes

Composition

Talbott soil and similar inclusions: 40 to 60 percent
Rock outcrop: 35 to 55 percent

Setting

Landform: Mountainsides and hillsides of the Short Mountain area
Shape of areas: Elongated
Size of areas: 20 to 290 acres
Major use: Woodland

Soil Properties and Qualities of the Talbott Soil

Drainage class: Well drained
Permeability: Slow to very slow
Available water capacity: Low to moderate
Soil reaction: Strongly acid to moderately alkaline
Depth to bedrock: 20 to 40 inches
Seasonal high water table: None
Flooding: None

Properties and Qualities of Rock Outcrop

The Rock outcrop part of this map unit consists of outcrops and boulders of limestone in bands on the contour, extending from 1 to 10 feet above the surface.

Typical Profile of the Talbott Soil

Surface layer:
0 to 5 inches—dark brown silt loam

Subsoil:
5 to 10 inches—reddish brown silty clay loam
10 to 34 inches—red and yellowish red clay

Underlying material:
34 to 38 inches—limestone bedrock

Inclusions

Contrasting inclusions:
• Barfield soils
• Etowah soils in the lower areas
• Jefferson soils in the higher areas and near drainageways
• Nella soils near drainageways

Similar inclusions:
• Soils with brown subsoils

Use and Management

Cropland

Suitability: Not suited—slope, rock outcrop, and erosion hazard
Management measures:
• Other sites should be considered.
Land capability classification: 7s

Pasture and hay

Suitability: Not suited—slope and rock outcrop
Management measures:
• Other sites should be considered.

Woodland

Suitability: Poorly suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Chopping and herbicide application reduce immediate plant competition.
• Using special planting stock that is larger and sturdier can reduce seedling mortality.

• Because of rock outcrop and very steep slopes, special care should attend the use of mechanized equipment in forest management.
• Harvesting methods such as cable yarding systems and other systems that fully or partially suspend logs are safer, reduce damage to the soil, and help maintain productivity.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Not suited—slope, rock outcrop, and depth to rock
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Not suited—slope, slow percolation, rock outcrop, and depth to rock
Management measures:
• Other sites should be considered.

TrB—Tarklin gravelly silt loam, 2 to 5 percent slopes

Setting

Landscape position: Stream terraces of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 30 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Available water capacity: Moderate to low
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 1.8 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 8 inches—brown gravelly silt loam

Subsoil:
8 to 22 inches—yellowish brown gravelly silt loam
22 to 46 inches—pale brown gravelly silt loam; extremely firm fragipan

Underlying material:
46 to 60 inches—light brownish gray very gravelly silt loam

Inclusions

Contrasting inclusions:
• Trace soils
• Lobelville soils in the lower areas near drainageways

Similar inclusions:
• Soils that contain slightly less gravel above the fragipan
• Soils that have a thin fragic layer that is less than 60 percent brittle

Use and Management

Cropland

Suitability: Well suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.
• Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Because puddling can occur when the soil is wet, soil disturbances are best planned for dry weather.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
• Subsurface tile drains and land shaping help remove excess water.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Curtain drains and land shaping help remove excess water.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.

TrC2—Tarklin gravelly silt loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Stream terraces of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 35 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Available water capacity: Low to moderate
Soil reaction: Extremely acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: 1.5 to 1.8 feet; December-April
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown gravelly silt loam

Subsoil:
6 to 20 inches—yellowish brown gravelly silt loam
20 to 26 inches—pale brown gravelly silt loam; very firm fragipan
26 to 54 inches—yellowish brown gravelly silt loam; extremely firm fragipan

Underlying material:
54 to 70 inches—pale brown very gravelly loam

Inclusions

Contrasting inclusions:
• Sugargrove soils on shoulders and nose slopes
• Mountview soils in the higher areas

Similar inclusions:
• Soils that have a thin fragic layer that is less than 60 percent brittle
• Soils than contain slightly less gravel above the fragipan
• Areas that are less eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.

• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 3e

Pasture and hay

Suitability: Suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.
• Because the very firm fragipan of the subsoil and the seasonal high water table limit the suitability of this map unit for deep-rooted plants such as alfalfa, those crops should be avoided or used sparingly.
• Plant selection should focus on adapted plants and varieties.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Limiting the operation of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.
• Use of ground equipment that limits compaction, such as wide-track or wide-tire vehicles, reduces damage to the soil and helps maintain productivity.

Dwellings

Suitability: Suited, but poorly suited to basements
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Subsurface tile drains and land shaping help remove excess water.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Poorly suited
Management measures:
• Curtain drains and land shaping help remove excess water.
• Onsite investigation is needed to determine the extent to which planned septic tank filter fields should include additional areas of more suitable soils.
• Increasing the size of the absorption field helps overcome restricted permeability.
• Specially designed systems may be needed.
• Curtain drains and land shaping help remove excess water.
• Other sites should be considered.

Tt—Trace silt loam, rarely flooded

Setting

Landscape position: Flood plains of the Highland Rim
Shape of areas: Elongated
Size of areas: 5 to 20 acres
Major use: Cropland

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate to rapid
Available water capacity: High to moderate
Soil reaction: Strongly acid to slightly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: Rare

Typical Profile

Surface layer:
0 to 9 inches—brown silt loam

Subsoil:
9 to 32 inches—brown silt loam

Underlying material:
32 to 56 inches—yellowish brown very gravelly loam
56 to 65 inches—brown extremely gravelly sandy loam

Inclusions

Contrasting inclusions:
• Tarklin soils in the slightly higher areas
• Lobelville soils in the lower areas near drainageways

Similar inclusions:
• Soils that contain slightly more rock fragments in the upper part

Use and Management

Cropland

Suitability: Well suited

Management measures:
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
Land capability classification: 2e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Intensive site preparation and maintenance are necessary to control undesirable plants that prevent adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Using standard-wheeled and tracked equipment when the soil is wet causes rutting and compaction.

Dwellings

Suitability: Not suited—flood hazard
Management measures:
• Other sites should be considered.

Septic tank absorption fields

Suitability: Suited
Management measures:
• Although flooding is rare, measures must be taken to protect absorption fields from high water.

W—Water

This map unit consists of areas inundated with water the year round and generally includes rivers, lakes, and ponds. No capability class is given for this map unit.

WaC2—Waynesboro clay loam, 5 to 12 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Irregular
Size of areas: 5 to 20 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown clay loam

Subsoil:
6 to 12 inches—red clay loam
12 to 72 inches—dark red and red clay

Inclusions

Contrasting inclusions:
• Christian soils
• Etowah soils

Similar inclusions:
• Soils that contain slightly more gravel throughout
• Areas that are less eroded

Use and Management

Cropland

Suitability: Suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 3e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.
• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
• Increase the size of the absorption field to help overcome restricted permeability.
• Install field lines across the slope on the contour.
• Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

WaD2—Waynesboro clay loam, 12 to 20 percent slopes, eroded

Setting

Landscape position: Hillsides of the Highland Rim
Shape of areas: Irregular or elongated
Size of areas: 5 to 12 acres
Major use: Pasture

Soil Properties and Qualities

Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Soil reaction: Very strongly acid to strongly acid
Depth to bedrock: More than 60 inches
Seasonal high water table: None
Flooding: None

Typical Profile

Surface layer:
0 to 6 inches—brown clay loam

Subsoil:
6 to 12 inches—red clay loam
12 to 72 inches—red clay

Inclusions

Contrasting inclusions:
• Christian soils
• Etowah soils

Similar inclusions:
• Soils that contain slightly more gravel throughout
• Areas that are less eroded or severely eroded

Use and Management

Cropland

Suitability: Poorly suited
Management measures:
• Steps should be taken to limit soil erosion where cultivated crops are grown.
• No-till and other tillage systems that leave crop residue on the surface, farming on the contour, winter cover crops, stripcropping, grassed waterways, and crop rotation help reduce runoff and control erosion.
• Conservation practices should be intensified as slope steepness and slope length increase.
• Nutrient management measures such as fertilizing to current soil tests, returning crop residues, applying manure, selecting the best plants for cover crops and crop rotation, and properly timing applications of chemical nutrient sources help maintain the tilth and productivity of this soil.
• Site-specific recommendations are needed to determine the best management practices that will protect resources and provide an economic return.
Land capability classification: 4e

Pasture and hay

Suitability: Well suited
Management measures:
• Periodic mowing and clipping help maintain uniform growth and discourage selective grazing.

• Proper stocking rates and pasture rotation help to keep the pasture in good condition and to protect the soil from erosion.

Woodland

Suitability: Well suited
Management measures:
• Proper site preparation and maintenance help control undesirable plants that reduce adequate natural or artificial reforestation.
• Harrowing and herbicide application reduce immediate plant competition.
• Conducting planting and harvesting operations on the contour helps control erosion.
• Using equipment carefully to keep land disturbance to a minimum and laying out roads and skid trails that least disturb the duff layer reduce erosion.
• Establishment of cover on bare soil helps control erosion.
• Avoiding use of standard-wheeled and tracked equipment when the soil is wet reduces rutting and compaction.

Dwellings

Suitability: Suited to poorly suited
Management measures:
• Land shaping may be needed for site preparation, or buildings may have to be designed to conform to the natural slope.
• Reapplying stockpiled topsoil to reclaim areas disturbed during construction prevents erosion.
• Careful use of equipment, thoughtful planning of excavation, and good design practices that limit areas of disturbed and bare soil help reduce erosion, runoff, and off-site sedimentation.

Septic tank absorption fields

Suitability: Suited
Management measures:
• Increase the size of the absorption field to help overcome restricted permeability.
• Install field lines across the slope on the contour.
• Avoid constructing filter-field trench walls when the soil is too wet, to prevent the walls from smearing and sealing.

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 in predicting soil behavior.

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

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

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.

According to the 1994 Tennessee Agricultural Statistics, Cannon County has about 16,110 acres of harvested crops. Soybeans and corn are the row crops most commonly grown. About 50,000 acres are used as pasture, mostly a mixture of tall fescue and white clover.

Many of the soils in Cannon County are suited to the crops that are commonly grown in the area, though some are not. For example, most commercial crops do poorly on soils that have a heavy clay subsoil immediately below the surface layer, such as Talbott soils. Most of the soils in Cannon County need fertilizer and lime to produce the highest yields. The amounts needed depend on the pH level and the amount of plant nutrients in the soil, as determined by soil tests, the needs of the crop, and the level of yield desired. The Cooperative Agricultural Extension Service operates a soil testing laboratory as a service to landowners and operators and makes recommendations on the amount of fertilizer and lime needed based on supplied soil samples and production information.

Most of the soils in Cannon County are relatively low in organic matter, which is found mostly in the surface layer. Organic matter is an important source of nitrogen for crops. It also increases water infiltration and available moisture capacity, improves soil structure, reduces surface crusting, and promotes good tilth. Although significantly increasing a soil’s level of organic matter is not feasible, maintaining the present level by returning organic matter to the soil is an important management procedure. Organic material can be added to the soil by applying farm manure, leaving or returning plant residue to the soil,

Figure 6.—No-till corn in wheat stubble on Dickson silt loam, 1 to 4 percent slopes. Conservation practices that leave residue on the surface reduce the hazard of erosion.

growing sod crops, and incorporating cover or other green-manure crops into the soil.

All of the soils that are gently sloping and steeper and are cultivated are subject to erosion. Soil erosion reduces the productivity of the soils. If the surface layer is lost through erosion, most of the available plant nutrients and organic matter are also lost. Erosion is especially damaging to soils that are shallow to heavy clay, such as Talbott soils, or shallow to a slowly permeable layer, such as Dickson soils. Because nutrients and pesticides are commonly attached to soil particles, soil erosion on farmland can result in the pollution of streams from sediment, nutrients, and pesticides, if the soil particles reach a stream. Controlling erosion minimizes pollution, which helps maintain or improve water quality.

A cropping system that keeps plant cover on the soil for extended periods reduces soil erosion and preserves the productive capacity of the soils. Use of grass and legume forage crops in the cropping system reduces erosion on sloping land, provides nitrogen to plants, and improves soil tilth for the crop that follows. Legumes that are properly inoculated can fix nitrogen taken from the air. No-till or reduced tillage practices, contour farming, stripcropping and cropping systems that rotate grass and legumes, and close-growing crops with row crops help control erosion on cropland (fig. 6).

Pasture is effective in controlling erosion on most soils. A high level of pasture management includes applying lime and fertilizers, regulating grazing, using adapted plants in the pasture mixture, and rotating the livestock from one pasture to another to allow growth periods for the pasture plants.

Landowners or operators can normally choose among alternative practices because one or more

management systems may be equally effective in controlling erosion and producing good yields on a specific field or farm. The local representative of the Natural Resources Conservation Service can furnish assistance in planning an effective management system.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table. Absence of a yield indicates that the crop is not suited or is not commonly grown in that soil mapping unit.

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

Land Capability Classification

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

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by 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 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 close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

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

The capability classification of the map units in this

survey area is given in the section “Detailed Soil Map Units” and in the yields table (table 5).

Prime Farmland

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. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

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

About 42,299 acres in the survey area, or nearly 25 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most are in the eastern part, mainly in general soil map unit 1, which is described under the heading “General Soil Map Units.” About 16,000 acres of this prime farmland is used for crops. The crops grown on this land are mainly corn and soybeans.

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

The map units in the survey area that are considered prime farmland are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Woodland Management and Productivity

Woodland occupies about 52 percent of Cannon County, according to the 1989 U.S. Forest Service Resource Survey. Farmers and other individuals own most of the woodland in Cannon County, which consists mostly of the oak-hickory forest type. Most of the remaining woodland is the oak-pine forest type, typically found on dry ridges and steep, south-facing and west-facing slopes.

The average woodland growth in Cannon County is about 30 cubic feet per acre per year. Potential average growth is about 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.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. In the table, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions

considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils 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, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Suggested trees to plant are those that are suitable for commercial wood production.

Recreation

Cannon County has potential for a wide variety of recreational activities. Recreational facilities for which the county has high potential include vacation cabins, riding stables and trails, campgrounds, picnic areas, and facilities for small-game hunting. Facilities for which the county has medium potential include natural, scenic, and historical areas, vacation farms, shooting preserves, and areas for hunting big game. Golf courses, waterfowl hunting, fishing, and other water sports represent activities for which the county has low to medium potential (fig. 7).

The soils of the survey area are rated in table 8 according to 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

Figure 7.—Lakes and ponds provide habitat for wildlife, a water supply, and recreation.

impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

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

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 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 mild 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 or 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

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, oats, and barley.

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

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 common ragweed, goldenrod, beggarweed, partridge pea, and broomsedge.

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

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of

coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine and eastern redcedar.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, 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 waterfowl feeding areas and ponds.

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

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

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

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

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, and shrinking and swelling can cause the movement of footings. A high water table, depth to bedrock, large stones, slope, 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, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, 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 kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and 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, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel 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 lagoon areas are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

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

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 the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, a high 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 wind erosion.

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 engineering index properties provides detailed information about each soil layer. This information can help to determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

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

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

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

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

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale 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, and bedrock.

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

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or 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 nutrients for plant growth.

Water Management

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

This table also gives for each soil the restrictive features that affect 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 even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

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

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; and susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, 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 or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, 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. A low available water capacity, restricted rooting depth, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

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

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 about 15 percent, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified Soil Classification System (ASTM 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.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

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

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

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries,

the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Tables 15 and 16 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 15, the estimated clay content of each 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 shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 15, 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 downward movement of water 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 is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In 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 by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 15 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the

whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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

Cation-exchange capacity, shown in table 16, is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

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

Soil and Water Features

Tables 17 and 18 give estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 17 indicates, by month, depth to the top *(upper limit)* and base *(lower limit)* of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 17 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means

that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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

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

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. Table 18 indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. Depth to top is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA 1975; USDA 1992). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 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; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is 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 subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic 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, mineral content, soil temperature regime, soil depth, and reaction. 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 within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (USDA 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (USDA 1999) and in “Keys to Soil Taxonomy” (USDA 1992). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

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

Armour Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Nashville Basin
Landform: Stream terrace
Parent material: Alluvium
Slope range: 0 to 5 percent

Associated soils: Arrington, Ocana, Sykes
Taxonomic class: Fine-silty, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Armour silt loam, 2 to 5 percent slopes (fig. 8); 0.15 mile north on Countyline Road from the intersection with Highway 70 at the Rutherford County line; 0.4 mile east on Barker Road; 1,175 feet north; USGS Readyville topographic quadrangle; lat. 35 degrees 48 minutes 46 seconds N. and long. 86 degrees 10 minutes 28 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3), crushed, silt loam; weak fine granular structure; friable; common very fine roots throughout; common fine interstitial pores; common fine rounded slightly hard masses of iron-manganese accumulation throughout; slightly acid; abrupt smooth boundary.

AB—8 to 19 inches; brown (7.5YR 4/3), crushed, silt loam; moderate medium granular structure; friable; common very fine roots throughout; many fine tubular pores; common fine rounded slightly hard masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

Bt1—19 to 25 inches; strong brown (7.5YR 4/6), interior, silt loam; common medium faint brown (7.5YR 4/4) irregular mottles throughout; moderate fine subangular blocky structure; friable; common very fine roots throughout; common fine tubular pores; very few faint patchy clay films on faces of peds and in pores; common fine rounded slightly hard masses of iron-manganese accumulation; moderately acid; gradual smooth boundary.

Bt2—25 to 43 inches; strong brown (7.5YR 4/6), interior, silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots throughout; common fine tubular pores; common distinct continuous brown (7.5YR 4/4) clay films on faces of peds and in pores; common fine rounded slightly hard masses of iron-manganese accumulation; moderately acid; gradual smooth boundary.

Bt3—43 to 55 inches; strong brown (7.5YR 5/6), interior, silty clay loam; moderate fine subangular blocky structure; friable; common fine tubular pores; common distinct continuous brown (7.5YR 5/4) clay films on faces of peds and in pores; common fine rounded slightly hard masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

2Bt4—55 to 67 inches; yellowish brown (10YR 5/8), interior, clay; strong fine subangular blocky structure; firm; very few distinct patchy clay films on faces of peds; common fine and medium irregular soft masses of iron-manganese accumulation; moderately acid; clear smooth boundary.

2BC—67 to 71 inches; light olive brown (2.5Y 5/6), interior, clay; weak coarse subangular blocky structure; very firm; neutral; clear smooth boundary.

2C—71 to 83 inches; light olive brown (2.5Y 5/4), interior, clay; few fine distinct light gray (2.5Y 7/2) irregular mottles throughout and common fine distinct olive yellow (2.5Y 6/6) irregular mottles throughout; massive; very firm; slightly alkaline.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Moderately acid to strongly acid

A horizon:
Hue—10YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 15 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 or 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 15 percent

2Bt and 2C horizons:
Hue—2.5Y or 10YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—clay, clay loam, or loam
Content of rock fragments—0 to 35 percent

Arrington Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Nashville Basin
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 2 percent
Associated soils: Armour, Egam, Lindell, Ocana
Taxonomic class: Fine-silty, mixed, superactive, thermic Cumulic Hapludolls

Typical Pedon

Arrington silt loam, occasionally flooded; 0.65 mile north on Highway 53 from the intersection with US Highway 70S at Woodbury; 250 feet north of East Fork Stones River; USGS Woodbury topographic quadrangle; lat. 35 degrees 49 minutes 52 seconds N. and long. 86 degrees 2 minutes 56 seconds W.

Ap—0 to 9 inches; dark brown (10YR 3/3), rubbed, silt loam; weak medium granular structure; friable; common very fine roots throughout; common very fine and fine interstitial pores; slightly acid; abrupt wavy boundary.

A1—9 to 16 inches; dark brown (10YR 3/3), rubbed, silt loam; moderate medium granular structure; friable; common very fine roots throughout; many very fine and fine tubular pores; slightly acid; clear smooth boundary.

A2—16 to 26 inches; dark brown (10YR 3/3), rubbed, silt loam; strong medium granular structure; friable; common very fine roots throughout; many very fine and fine tubular pores; slightly acid; clear smooth boundary.

A3—26 to 35 inches; very dark grayish brown (10YR 3/2), rubbed, silty clay loam; weak medium prismatic structure parting to strong medium granular; friable; few very fine roots throughout; many very fine and fine tubular pores; slightly acid; clear smooth boundary.

Bw—35 to 49 inches; dark yellowish brown (10YR 3/4), interior, silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common very fine and fine tubular pores; distinct continuous brown (10YR 5/3) silt coats on vertical faces of peds; slightly acid; abrupt wavy boundary.

C1—49 to 61 inches; brown (10YR 4/3), interior, clay loam; weak coarse prismatic structure; friable; common medium faint brown (10YR 5/3) platelike iron depletions throughout; few prominent patchy manganese or iron-manganese stains throughout; common fine and medium irregular masses of iron-manganese accumulation throughout; 2 percent rounded limestone-siltstone gravel; slightly acid; clear wavy boundary.

2C2—61 to 76 inches; dark yellowish brown (10YR 4/4), exterior, very gravelly loam; massive; friable; common medium and coarse distinct brown (10YR 5/3) platelike iron depletions throughout and common fine and medium distinct grayish brown (10YR 5/2) platelike iron depletions throughout; 50 percent rounded limestone-cherty gravel; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Slightly acid to moderately alkaline

A horizon:
- Hue—10YR
- Value—3
- Chroma—2 or 3
- Texture of the fine-earth fraction—silt loam
- Content of rock fragments—0 to 5 percent

B horizon:
- Hue—10YR
- Value—3 or 4
- Chroma—3 or 4
- Texture of the fine-earth fraction—silt loam or silty clay loam
- Content of rock fragments—0 to 5 percent

C and 2C horizons:
- Hue—10YR
- Value—4 or 5
- Chroma—2 to 4
- Redoximorphic features—in shades of brown or gray
- Texture of the fine-earth fraction—silt loam, loam, or clay loam
- Content of rock fragments—0 to 50 percent

Ashwood Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow to very slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 5 to 60 percent
Associated soils: Barfield, Mimosa, Gladdice
Taxonomic class: Fine, mixed, superactive, thermic Vertic Argiudolls

Typical Pedon

Rock outcrop-Barfield-Ashwood complex, 15 to 35 percent slopes, eroded; 2.9 miles west on Highway 96 from the intersection with Highway 145 at Auburntown; 3,200 feet north; USGS Milton topographic quadrangle; lat. 35 degrees 56 minutes 42 seconds N. and long. 86 degrees 8 minutes 30 seconds W.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2), rubbed, and very dark brown (10YR 2/2), exterior, silty clay loam; moderate fine and medium granular structure; friable; many very fine

and fine, common medium, and few coarse roots throughout; many very fine interstitial pores; 5 percent limestone channers; neutral; clear smooth boundary.

A2—4 to 11 inches; very dark grayish brown (10YR 3/2), rubbed, and very dark grayish brown (10YR 3/2), exterior, silty clay loam; moderate medium granular structure; friable; common very fine and fine, common medium, and common coarse roots throughout; common very fine and fine tubular pores; 5 percent angular limestone-cherty gravel and 1 percent subangular limestone channers; neutral; clear smooth boundary.

Bt1—11 to 14 inches; brown (10YR 4/3), rubbed, clay; moderate fine subangular blocky structure; firm; common very fine and fine and common medium roots throughout; common very fine tubular pores; common distinct discontinuous brown (10YR 5/3) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—14 to 19 inches; yellowish brown (10YR 5/4), interior, clay; brown (10YR 4/3) moist mottles between peds; moderate fine subangular blocky structure; firm; common very fine and fine roots throughout; common distinct discontinuous brown (10YR 5/3) clay films on faces of peds; neutral; gradual smooth boundary.

Bt3—19 to 31 inches; yellowish brown (10YR 5/6), interior, clay; moderate fine subangular blocky structure; firm; common distinct discontinuous yellowish brown (10YR 5/4) clay films on faces of peds; few fine rounded manganese concretions throughout and few fine irregular masses of manganese accumulation throughout; neutral; clear wavy boundary.

Bt4—31 to 35 inches; yellowish brown (10YR 5/6), interior, clay; many fine light yellowish brown (2.5Y 6/3) mottles; moderate fine subangular blocky structure; firm; common prominent discontinuous yellowish brown (10YR 5/4) clay films on faces of peds; few fine irregular masses of manganese accumulation throughout; slightly alkaline; abrupt smooth boundary.

R—35 to 39 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches (fig. 9)
Kind of rock fragments: Limestone-cherty

A horizon:
Hue—10YR
Value—3
Chroma—3 or 2
Texture of the fine-earth fraction—silty clay loam

Bt horizon:
Hue—10YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—clay
Content of rock fragments—0 to 15 percent

Barfield Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Slow to very slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 5 to 60 percent
Associated soils: Ashwood, Gladdice, Inman, Talbott
Taxonomic class: Clayey, mixed, active, thermic Lithic Hapludolls

Typical Pedon

Rock outcrop-Barfield-Ashwood complex, 15 to 35 percent slopes, eroded (fig. 10); 0.75 mile south on Highway 64 from the intersection with Highway 70S west of Woodbury; 2.85 miles south on Burt-Burgen Road; 0.35 mile west on Gaither Road; 2,100 feet south; USGS Readyville topographic quadrangle; lat. 35 degrees 45 minutes 2 seconds N. and long. 86 degrees 8 minutes 12 seconds W.

A—0 to 6 inches; very dark brown (10YR 2/2), exterior, and very dark grayish brown (10YR 3/2), rubbed, silty clay loam; strong fine granular structure; friable; common very fine and fine, few medium, and few coarse roots throughout; common very fine and fine vesicular and tubular pores; 5 percent angular limestone channers; neutral; clear smooth boundary.

Bw1—6 to 10 inches; very dark grayish brown (10YR 3/2), interior and rubbed, clay; moderate fine subangular blocky structure; firm; common very fine and fine, few medium, and few coarse roots throughout; common very fine and fine tubular pores; 5 percent angular limestone channers; neutral; clear smooth boundary.

Bw2—10 to 16 inches; dark yellowish brown (10YR 4/6), interior, clay; weak medium subangular blocky structure; very firm; few very fine and fine, few medium, and few coarse roots throughout; 5 percent angular limestone channers; slightly alkaline.

R—16 to 20 inches; limestone.

Range in Characteristics

Depth to bedrock: 8 to 20 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Slightly acid to moderately alkaline

A horizon:
Hue—10YR
Value—2 or 3
Chroma—2 or 3
Texture of the fine-earth fraction—silty clay loam or clay
Content of rock fragments—0 to 15 percent

B horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Texture of the fine-earth fraction—silty clay or clay
Content of rock fragments—3 to 25 percent

Bewleyville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Divide; hill
Parent material: Loess over alluvium
Slope range: 5 to 20 percent
Associated soils: Christian, Etowah, Mountview, Waynesboro
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Typic Paleudults

Typical Pedon

Bewleyville silt loam, 5 to 12 percent slopes, eroded; 0.45 mile south on Pursor Hill Road from the intersection with Half Acre Road; 60 feet west of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 50 minutes 52 seconds N. and long. 85 degrees 53 minutes 50 seconds W.

Ap—0 to 8 inches; brown (7.5YR 4/4), interior, silt loam; weak fine granular structure; friable; common very fine and fine roots throughout; common very fine tubular pores; 2 percent subangular limestone-cherty gravel; strongly acid; abrupt smooth boundary.

Bt1—8 to 14 inches; brown (7.5YR 4/4), interior, silty clay loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; common medium tubular pores and common very fine and fine tubular pores; common distinct continuous brown (7.5YR 4/3) clay films on faces of peds and in pores; 5 percent limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt2—14 to 22 inches; yellowish red (5YR 5/6), interior, silty clay loam; few fine distinct red (2.5YR 4/6) mottles; strong fine subangular blocky structure; friable; common very fine and fine roots throughout; common medium tubular pores and common very fine and fine tubular pores; common distinct continuous reddish brown (5YR 5/4) clay films on faces of peds; 8 percent limestone-cherty gravel; strongly acid; clear smooth boundary.

2Bt3—22 to 80 inches; dark red (2.5YR 3/6), exterior, and red (2.5YR 4/6), interior, clay loam; few fine prominent reddish yellow (7.5YR 6/8) mottles; strong fine angular blocky structure; friable; common medium tubular pores and common very fine and fine tubular pores; many prominent continuous reddish brown (2.5YR 4/4) clay films; 10 percent limestone-cherty gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and quartzite pebbles
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 5 percent

Bt horizon:
Hue—7.5YR or 5YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 5 percent

2Bt horizon:
Hue—5YR or 2.5YR
Value—3 to 6
Chroma—4 to 8
Texture of the fine-earth fraction—clay loam, silty clay loam, or clay
Content of rock fragments—0 to 15 percent

Bradyville Series

Depth class: Deep
Drainage class: Well drained

Permeability: Moderately slow to slow
Physiographic area: Nashville Basin
Landform: Divide
Parent material: Alluvium over residuum
Slope range: 2 to 12 percent
Associated soils: Barfield, Capshaw, Talbott
Taxonomic class: Fine, mixed, active, thermic Typic Hapludalfs

Typical Pedon

Bradyville silt loam, 2 to 5 percent slopes; 5.6 miles south on Highway 64 from the intersection with Highway 70S west of Woodbury; 0.2 mile west on a farm lane; 700 feet south of a gate; USGS Beechgrove topographic quadrangle; lat. 35 degrees 44 minutes 3 seconds N. and long. 86 degrees 10 minutes 33 seconds W.

Ap—0 to 5 inches; brown (7.5YR 4/3), crushed, silt loam; moderate fine granular structure; friable; many very fine and fine roots throughout; common very fine and fine vesicular and tubular pores; few fine rounded iron-manganese concretions throughout; slightly acid; abrupt smooth boundary.

BA—5 to 10 inches; reddish brown (5YR 4/4), interior, silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; few fine rounded iron-manganese concretions throughout; moderately acid; clear smooth boundary.

Bt1—10 to 17 inches; red (2.5YR 4/6), interior, silty clay loam; strong fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; common distinct continuous reddish brown (2.5YR 4/4) clay films on vertical faces of peds; few fine rounded iron-manganese concretions throughout; moderately acid; gradual smooth boundary.

Bt2—17 to 27 inches; red (2.5YR 4/8), interior, clay; strong fine angular blocky structure; firm; common very fine and fine roots throughout; common very fine and fine tubular pores; many prominent continuous red (2.5YR 4/6) clay films on faces of peds and in pores and very few prominent patchy manganese or iron-manganese stains on vertical faces of peds; strongly acid; clear wavy boundary.

Bt3—27 to 53 inches; red (2.5YR 4/8), interior, clay; many fine and medium prominent strong brown (7.5YR 5/6) mottles throughout; strong fine subangular blocky structure; firm; common very fine and fine tubular pores; many prominent continuous red (2.5YR 4/6) clay films on faces of peds and in pores; very few prominent patchy manganese or iron-manganese stains on vertical faces of peds; strongly acid; clear wavy boundary.

C—53 to 57 inches; yellowish red (5YR 4/6), interior, clay; many medium prominent light yellowish brown (2.5Y 6/4) platelike mottles throughout; massive; very firm; 15 percent subangular limestone channers; slightly alkaline; abrupt wavy boundary.

R—57 to 61 inches; unweathered limestone rock.

Range in Characteristics

Depth to bedrock: 40 to 60 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Strongly acid to moderately alkaline

A horizon:
Hue—7.5YR or 10YR
Value—3 or 4
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 15 percent

Bt horizon:
Hue—5YR or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture of the fine-earth fraction—silty clay loam or clay
Content of rock fragments—0 to 15 percent

C horizon:
Hue—7.5YR, 5YR, or 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—clay
Content of rock fragments—0 to 15 percent

Capshaw Series

Depth class: Deep to very deep
Drainage class: Moderately well drained
Permeability: Slow
Physiographic area: Nashville Basin
Landform: Stream terrace; divide
Parent material: Alluvium over residuum
Slope range: 2 to 6 percent
Associated soils: Armour, Arrington, Sykes, Talbott
Taxonomic class: Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs

Typical Pedon

Capshaw silt loam, 2 to 6 percent slopes; 0.95 mile east on Northcutt Road at Porterfield Community Center near the Rutherford County line; 0.6 mile north

on Hare Lane; 550 feet west; USGS Milton, Tennessee topographic quadrangle; lat. 35 degrees 53 minutes 47 seconds N. and long. 86 degrees 8 minutes 41 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; common very fine interstitial pores; 5 percent subangular limestone-cherty gravel; strongly acid; abrupt smooth boundary.

Bt1—8 to 17 inches; yellowish brown (10YR 5/6) silty clay loam; few fine faint yellowish brown (10YR 5/4) irregular mottles throughout; moderate fine subangular blocky structure; friable; few very fine roots throughout; few very fine interstitial pores and few very fine tubular pores; few faint discontinuous yellowish brown (10YR 5/4) clay films on faces of peds; few fine rounded manganese concretions throughout; 1 percent subangular limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/6) clay; common fine faint yellowish brown (10YR 5/4) irregular mottles throughout; strong fine subangular blocky structure; firm; few very fine and fine roots between peds; common prominent continuous yellowish brown (10YR 5/4) clay films on faces of peds; common fine rounded manganese concretions throughout; strongly acid; clear smooth boundary.

Bt3—24 to 37 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; firm; few very fine roots between peds; common distinct continuous yellowish brown (10YR 5/4) clay films on faces of peds; common fine rounded manganese concretions throughout; many fine and medium distinct light brownish gray (10YR 6/2) irregular iron depletions throughout and many fine and medium distinct strong brown (5YR 5/6) masses of iron accumulation throughout; 1 percent subangular limestone-cherty gravel; strongly acid; gradual smooth boundary.

Bt4—37 to 52 inches; light olive brown (2.5Y 5/4) clay; weak medium subangular blocky structure; very firm; common distinct continuous light olive brown (2.5Y 5/3) clay films on faces of peds; many medium prominent light brownish gray (10YR 6/2) irregular iron depletions throughout and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; strongly acid; gradual smooth boundary.

C—52 to 70 inches; gray (2.5Y 6/1) clay; very firm; massive; many fine prominent yellowish brown (10YR 5/4) iron accumulations throughout; many fine rounded manganese concretions throughout; moderately acid.

Range in Characteristics

Depth to bedrock: 40 to 80 inches
Kind of rock fragments: Limestone-cherty
Reaction: Moderately acid to slightly alkaline

A horizon:
- Hue—10YR
- Value—4
- Chroma—3 or 4
- Texture of the fine-earth fraction—silt loam
- Content of rock fragments—0 to 10 percent

Bt horizon:
- Hue—10YR or 7.5YR
- Value—4 or 5
- Chroma—4 or 6
- Redoximorphic features—in shades of brown, red, yellow, or gray at a depth of 10 inches below the upper boundary
- Texture of the fine-earth fraction—silty clay loam or clay
- Content of rock fragments—0 to 10 percent

C horizon:
- Hue—2.5Y or 10YR
- Value—5 or 6
- Chroma—1 to 4
- Redoximorphic features—in shades of yellow, brown, and gray
- Texture of the fine-earth fraction—clay
- Content of rock fragments—0 to 10 percent

Christian Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate to moderately slow
Physiographic area: Highland Rim
Landform: Hill; ridge
Parent material: Alluvium over residuum
Slope range: 5 to 20 percent
Associated soils: Bewleyville, Mountview, Waynesboro
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Christian silt loam, 12 to 20 percent slopes, eroded; 0.8 mile from the intersection of Highway 281 and Highway 146 to Blair Road; 0.3 mile southeast to a farm lane; 0.4 mile east on lane; 1,900 feet east; USGS Short Mountain topographic quadrangle; lat. 35

degrees 46 minutes 48 seconds N. and long. 85 degrees 56 minutes 57 seconds W.

Ap—0 to 5 inches; yellowish brown (10YR 5/4), crushed, silt loam; moderate fine and medium granular structure; very friable; common very fine, fine, and medium and common coarse roots throughout; few fine interstitial pores; strongly acid; clear smooth boundary.

BE—5 to 14 inches; strong brown (7.5YR 5/6), interior, silty clay loam; moderate fine subangular blocky structure; friable; common very fine, fine, and medium roots throughout; common very fine, fine, and medium tubular pores; 2 percent subrounded limestone-cherty gravel; strongly acid; abrupt smooth boundary.

Bt1—14 to 26 inches; red (2.5YR 4/8), crushed, silty clay loam; common fine and medium prominent brownish yellow (10YR 6/6) mottles throughout; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; common fine, very fine, and medium roots throughout; common fine and very fine tubular pores; common distinct continuous red (2.5YR 4/6) clay films on faces of peds and in pores; 4 percent subangular limestone-cherty gravel; very strongly acid; clear wavy boundary.

2Bt2—26 to 44 inches; red (2.5YR 4/6), interior, gravelly clay; common medium prominent brownish yellow (10YR 6/6) mottles throughout; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; few very fine and fine and few medium roots throughout; common very fine and fine tubular pores; many prominent continuous reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; 2 percent rounded gravel, 8 percent subangular gravel, and 8 percent subangular cobbles; strongly acid; gradual smooth boundary.

2Bt3—44 to 62 inches; red (2.5YR 4/6), interior, gravelly clay; common medium prominent brownish yellow (10YR 6/6) mottles throughout; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable; few fine roots throughout; common very fine and fine tubular pores; many prominent continuous reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; 12 percent subangular cobbles, 12 percent subangular gravel, and 1 percent rounded cobbles; very strongly acid; clear smooth boundary.

2Bt4—62 to 80 inches; red (2.5YR 4/6), interior, gravelly clay; common medium prominent brownish yellow (10YR 6/6) mottles throughout; weak medium subangular blocky structure; friable; common very fine tubular pores; common distinct discontinuous reddish brown (2.5YR 4/4) clay films on faces of peds; 15 percent subangular gravel and 15 percent subangular cobbles; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 35 percent

Bt horizon:
Hue—5YR or 2.5YR, or 7.5YR in the upper part
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—silty clay loam, clay loam, or clay
Content of rock fragments—0 to 35 percent

The Christian soils in this survey are taxadjuncts because the temperature regime is warmer than defined for the series. This difference, however, does not significantly affect the use, management, or interpretatons of the soils. In this survey the Christian soils are fine, mixed, thermic Typic Hapludults.

Dellrose Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Local colluvium
Slope range: 5 to 50 percent
Associated soils: Barfield, Gladdice, Hawthorne
Taxonomic class: Fine-loamy, mixed, semiactive, thermic Typic Paleudults

Typical Pedon

Dellrose gravelly silt loam, 30 to 50 percent slopes, eroded; 2.2 miles south on Highway 53 from the intersection of Highway 70S at Woodbury; 0.2 mile west on unimproved road; USGS Woodbury topographic quadrangle; lat. 35 degrees 47 minutes 53 seconds N. and long. 86 degrees 3 minutes 32 seconds W.

Ap—0 to 6 inches; dark brown (7.5YR 3/4), crushed, gravelly silt loam; strong fine and medium granular structure; very friable; many fine and common medium and coarse roots throughout; many fine interstitial pores and few medium interstitial pores; 15 percent subangular limestone-cherty 20 to 75 mm fragments and 5 percent subangular limestone-cherty gravel; moderately acid; abrupt smooth boundary.

BA—6 to 16 inches; brown (7.5YR 4/3), interior, gravelly silt loam; moderate fine subangular blocky structure; very friable; common fine, medium, and coarse roots throughout; many fine tubular pores; 20 percent subangular limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt—16 to 84 inches; strong brown (7.5YR 4/6), crushed, gravelly silty clay loam; moderate fine subangular blocky structure; friable; few fine and medium roots throughout; many fine and medium tubular pores; common faint continuous clay films throughout; few fine rounded masses of iron-manganese accumulation throughout; 30 percent subangular limestone-cherty gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Very strongly acid to moderately acid

A horizon:
Hue—10YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—10 to 35 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 or 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—15 to 35 percent

2Bt horizon:
Hue—10YR or 7.5YR
Value—5 or 6
Chroma—4 to 8
Texture of the fine-earth fraction—clay
Content of rock fragments—0 to 5 percent

Dickson Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Physiographic area: Highland Rim
Landform: Divide
Parent material: Loess over alluvium and residuum
Slope range: 1 to 8 percent
Associated soils: Sango, Taft, Mountview
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Glossic Fragiudults

Typical Pedon

Dickson silt loam, 1 to 4 percent slopes (fig. 11); south of Woodbury on Highway 53; 3.5 miles east on Red Hill Road; 200 feet south of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 43 minutes 6 seconds N. and long. 86 degrees 0 minutes 39 seconds W.

Ap—0 to 10 inches; brown (10YR 5/3), crushed, silt loam; weak medium granular structure; friable; common very fine and fine roots throughout; common medium interstitial pores and common very fine and fine interstitial pores; strongly acid; abrupt smooth boundary.

Bw—10 to 20 inches; yellowish brown (10YR 5/6), interior, silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; many very fine and fine tubular pores; few fine rounded iron-manganese concretions throughout; strongly acid; clear wavy boundary.

E—20 to 24 inches; pale brown (10YR 6/3), interior, silt loam; weak fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; common fine and medium rounded iron-manganese concretions throughout; common fine distinct threads of light brownish gray (2.5Y 6/2) iron depletions throughout; brittle bodies up to 0.5 inch across making up 10 percent of the horizon; strongly acid; abrupt irregular boundary.

Btx1—24 to 32 inches; yellowish brown (10YR 5/4), interior, silt loam; strong very coarse prismatic structure parting to strong very coarse platy; very firm; many very fine and fine tubular pores; many distinct continuous dark yellowish brown (10YR 4/6) clay films on faces of peds and in pores and common distinct continuous white (10YR 8/1) silt coatings on faces of peds; few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; brittle in more than 60 percent of the mass; very strongly acid; clear wavy boundary.

Btx2—32 to 43 inches; yellowish brown (10YR 5/4), interior, silt loam; strong very coarse prismatic structure parting to strong very coarse platy structure parting to strong fine and medium

angular blocky; very firm; many very fine and fine tubular pores; many prominent patchy dark yellowish brown (10YR 4/6) clay films on faces of peds and in pores; common distinct continuous white (10YR 8/1) silt coatings on faces of peds; brittle in more than 60 percent of the mass; very strongly acid; clear wavy boundary.

2Bt—43 to 73 inches; 50 percent red (2.5YR 4/8), interior, 30 percent olive yellow (2.5Y 6/8), interior, and 20 percent white (10YR 8/1), interior, clay; moderate fine subangular blocky structure; firm; common very fine and fine tubular pores; many distinct patchy yellowish brown (10YR 5/4) clay films on faces of peds and in pores; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 36 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 5 percent

B horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Redoximorphic features—in shades of brown, yellow, or gray in the lower part
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 5 percent

B/E or E horizon:
Hue—10YR or 2.5Y
Value—5 to 7
Chroma—2 to 4
Redoximorphic features—in shades of brown, yellow, and gray
Texture of the fine-earth fraction—silt loam

Btx horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—3 to 6
Redoximorphic features—in shades of brown, yellow, red, and gray
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

2Bt horizon:
Hue—7.5YR, 5YR, or 2.5YR
Value—3 to 5
Chroma—4 to 8
Redoximorphic features—in shades of brown, yellow, red, gray, and white
Texture of the fine-earth fraction—silty clay loam, clay loam, or clay
Content of rock fragments—0 to 35 percent

Eagleville Series

Depth class: Moderately deep
Drainage class: Somewhat poorly drained
Permeability: Slow to very slow
Physiographic area: Nashville Basin
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 2 percent
Associated soils: Capshaw, Egam
Taxonomic class: Fine, smectitic, thermic Fluvaquentic Vertic Endoaquolls

Typical Pedon

Eagleville silty clay loam, occasionally flooded; 4.6 miles south on Highway 64 from the intersection with Highway 70S west of Woodbury; 0.6 mile west on Highway 99; 0.35 mile north on Cunningham Road; 100 feet east; USGS Readyville topographic quadrangle; lat. 35 degrees 45 minutes 3 seconds N. and long. 86 degrees 10 minutes 51 seconds W.

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2), crushed, silty clay loam; strong medium granular structure; friable; many very fine and fine roots throughout; common very fine and fine interstitial and tubular pores; slightly acid; abrupt smooth boundary.

A—4 to 14 inches; black (10YR 2/1), exterior, and very dark brown (10YR 2/2), crushed, silty clay loam; weak medium columnar structure parting to strong medium granular; friable; many very fine and fine roots throughout; common very fine and fine tubular pores; slightly acid; clear smooth boundary.

Bg—14 to 22 inches; dark grayish brown (2.5Y 4/2), interior, clay; weak medium subangular blocky structure; very firm; common very fine and fine roots throughout; common very fine and fine tubular pores; many fine faint grayish brown (2.5Y 5/2) iron depletions throughout; common fine and medium rounded iron-manganese concretions

throughout; 10 percent subrounded limestone gravel; slightly alkaline.
R—22 to 26 inches; unweathered limestone rock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Moderately acid to slightly alkaline

A horizon:
Hue—10YR
Value—2 or 3
Chroma—1 or 2
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay
Content of rock fragments—0 to 15 percent

Bg horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—0 to 2
Redoximorphic features—in shades of brown
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of rock fragments—0 to 15 percent

Cg horizon: (where present)
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—0 to 2
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of rock fragments—0 to 15 percent

Egam Series

Depth class: Very deep
Drainage class: Well drained or moderately well drained
Permeability: Moderately slow
Physiographic area: Nashville Basin
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 3 percent
Associated soils: Arrington, Eagleville, Ocana
Taxonomic class: Fine, mixed, active, thermic Cumulic Hapludolls

Typical Pedon

Egam silty clay loam, occasionally flooded; on Highway 64 about 5.6 miles south of the intersection with Highway 70S west of Woodbury; 0.1 mile west on a farm lane; 800 feet south; USGS Beechgrove topographic quadrangle; lat. 35 degrees 44 minutes 3 seconds N. and long. 86 degrees 10 minutes 27 seconds W.

Ap—0 to 9 inches; dark brown (10YR 3/3), crushed, silty clay loam; weak coarse granular structure; friable; common very fine and fine roots throughout; slightly acid; abrupt smooth boundary.
A—9 to 39 inches; very dark grayish brown (10YR 3/2), interior, silty clay; moderate medium prismatic structure parting to strong fine subangular blocky; friable; few very fine and fine roots throughout; many very fine and fine tubular pores; slightly acid; clear smooth boundary.
Bw—39 to 50 inches; very dark grayish brown (10YR 3/2), interior, clay; weak medium prismatic structure parting to moderate medium subangular blocky; firm; 7 percent subrounded limestone gravel; neutral; abrupt smooth boundary.
2C—50 to 66 inches; brown (10YR 4/3), crushed, very gravelly clay; massive; firm; very few distinct patchy manganese or iron-manganese stains on rock fragments; 50 percent subrounded limestone gravel; neutral; abrupt smooth boundary.
3C—66 to 79 inches; dark yellowish brown (10YR 4/6), crushed, clay; few fine faint brown (10YR 4/3) mottles; massive; very firm; few fine distinct grayish brown (10YR 5/2) iron depletions; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Moderately acid to moderately alkaline

A horizon:
Hue—10YR
Value—2 or 3
Chroma—2 or 3
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay and rarely silt loam in the upper part
Content of rock fragments—0 to 5 percent

B horizon:
Hue—10YR
Value—3 or 4
Chroma—3 to 6
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of rock fragments—0 to 5 percent

C, 2C, or 3C horizons:
Hue—10YR

Value—4 to 6
Chroma—1 to 6
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—clay loam or clay
Content of rock fragments—0 to 60 percent

Etowah Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Hill
Parent material: Alluvium or local colluvium
Slope range: 5 to 35 percent
Associated soils: Jefferson, Nella, Talbott, Waynesboro
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Paleudults

Typical Pedon

Etowah gravelly silt loam, 12 to 20 percent slopes, eroded (fig. 12); 0.7 mile northwest on Parton Road from the intersection with Highway 146; 500 feet north of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 51 minutes 13 seconds N. and long. 85 degrees 57 minutes 7 seconds W.

Ap—0 to 7 inches; dark brown (7.5YR 3/4) gravelly silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots throughout; many very fine and fine interstitial pores; 18 percent angular limestone-cherty gravel; moderately acid; abrupt smooth boundary.

AB—7 to 11 inches; dark brown (7.5YR 3/4) gravelly silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; many very fine and fine interstitial and tubular pores; 18 percent angular limestone-cherty gravel; moderately acid; clear smooth boundary.

BA—11 to 17 inches; reddish brown (5YR 4/4) silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; few fine rounded manganese concretions throughout; 15 percent angular limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt1—17 to 24 inches; yellowish red (5YR 4/6) silty clay loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; common distinct continuous reddish brown (5YR 4/4) clay films on faces of peds and in pores; few fine rounded manganese concretions throughout; 15 percent angular limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt2—24 to 40 inches; red (2.5YR 4/6) clay loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; common distinct continuous reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; few fine rounded manganese concretions throughout; 10 percent angular limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt3—40 to 80 inches; red (2.5YR 4/6) clay; strong fine angular blocky structure; friable; few very fine and fine roots throughout; common very fine and fine tubular pores; many prominent continuous reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; few fine rounded manganese concretions throughout; 10 percent angular limestone-cherty gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and sandstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or rarely loam
Content of rock fragments—0 to 20 percent

Bt horizon:
Hue—7.5YR, 5YR, or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture of the fine-earth fraction—silt loam in the upper part and silty clay loam, clay loam, or clay in the lower part
Content of rock fragments—0 to 15 percent

2Bt horizon: (where present)
Hue—5YR or 2.5YR
Value—4 or 5
Chroma—6 or 8
Texture of the fine-earth fraction—clay loam or clay
Content of rock fragments—0 to 15 percent

Gilpin Series

Depth class: Moderately deep
Drainage class: Well drained

Permeability: Moderate
Physiographic area: Cumberland Plateau-Short Mountain
Landform: Mountain
Parent material: Local colluvium over residuum
Slope range: 20 to 40 percent
Associated soils: Jefferson, Lonewood, Nella
Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Gilpin stony loam, 20 to 40 percent slopes; 3 miles west on Gunter Hollow Road from Highway 146, about 250 feet southwest of fire tower; USGS Short Mountain topographic quadrangle; lat. 35 degrees 51 minutes 56 seconds N. and long. 85 degrees 58 minutes 36 seconds W.

Oi—1 inch to 0; partially decomposed leaves and twigs.
A—0 to 2 inches; very dark grayish brown (10YR 3/2), interior, and dark brown (10YR 3/3), rubbed, stony loam; moderate fine granular structure; very friable; common medium and many fine roots throughout; 25 percent sandstone channers and stones; very strongly acid; abrupt smooth boundary.
BA—2 to 5 inches; dark yellowish brown (10YR 4/4), interior, channery loam; moderate fine granular structure; very friable; common fine, medium, and coarse roots throughout; 20 percent sandstone channers; strongly acid; clear smooth boundary.
Bt1—5 to 12 inches; yellowish brown (10YR 5/6), interior, channery loam; weak fine subangular blocky structure; friable; common fine, medium, and coarse roots throughout; common very fine and fine tubular pores; few faint clay films on faces of peds; 20 percent sandstone channers; very strongly acid; clear smooth boundary.
Bt2—12 to 25 inches; strong brown (7.5YR 5/6), interior, channery silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots throughout; common fine tubular pores; few distinct brown (7.5YR 4/4) clay films on faces of peds; 25 percent shale channers; very strongly acid; clear wavy boundary.
C—25 to 31 inches; reddish yellow (7.5YR 6/6), interior, channery silty clay loam; common fine prominent yellowish red (5YR 5/8) mottles; massive; firm; common fine and medium roots in cracks; 28 percent angular shale channers; very strongly acid; clear wavy boundary.
Cr—31 to 45 inches; olive brown (2.5Y 4/4), interior, weathered bedrock; common fine and coarse roots in cracks; prominent red (2.5YR 5/8) coats on rock fragments.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Kind of rock fragments: Sandstone and shale
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—15 to 35 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—4 to 8
Texture of the fine-earth fraction—loam, silt loam, or silty clay loam
Content of rock fragments—15 to 35 percent

C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—2 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—15 to 40 percent

Gladdice Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderately slow to slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 15 to 60 percent
Associated soils: Barfield, Dellrose, Hawthorne
Taxonomic class: Fine, mixed, active, thermic Vertic Hapludalfs

Typical Pedon

Gladdice-Rock outcrop complex, 15 to 35 percent slopes, eroded; 1.5 miles north on Highway 53 from the intersection with Highway 70S at Woodbury; 1.1 miles east on Stones River Road; 500 feet south of road; USGS Woodbury topographic quadrangle; lat. 35 degrees 49 minutes 34 seconds N. and long. 86 degrees 1 minute 6 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3), rubbed, silty clay loam; strong medium granular structure;

friable; common very fine and fine roots throughout; common very fine and fine interstitial pores; 3 percent subangular limestone-cherty gravel; slightly acid; abrupt wavy boundary.

Bt—7 to 27 inches; dark yellowish brown (10YR 4/6), interior, clay; strong medium subangular blocky structure; very firm; few very fine and fine roots throughout; many prominent continuous dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine rounded masses of iron-manganese accumulation throughout; 15 percent subrounded limestone flagstones; neutral; clear wavy boundary.

BC—27 to 29 inches; olive brown (2.5Y 4/4), interior, clay; weak coarse subangular blocky structure; very firm; common fine and medium rounded masses of iron-manganese accumulation throughout; slightly alkaline.

R—29 to 33 inches; unweathered limestone bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Moderately acid to moderately alkaline

A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 15 percent

Bt horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—3 to 6
Texture of the fine-earth fraction—clay or silty clay or rarely silty clay loam in the upper part
Content of rock fragments—0 to 15 percent

Gladeville Series

Depth class: Very shallow
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Nashville Basin
Landform: Divide; hill
Parent material: Residuum
Slope range: 2 to 20 percent
Associated soils: Barfield, Talbott
Taxonomic class: Clayey-skeletal, mixed, active, thermic Lithic Haprendolls

Typical Pedon

Gladeville flaggy silty clay loam, 3 to 20 percent slopes; 0.75 mile south on Highway 64 from the intersection with Highway 70S west of Woodbury; 1.2 miles south on Burt-Burgen Road; 0.2 mile east on Burt Road; 1,400 feet north; USGS Readyville topographic quadrangle; lat. 35 degrees 47 minutes 1 second N. and long. 86 degrees 8 minutes 15 seconds W.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2), exterior, and dark brown (10YR 3/3), rubbed, flaggy silty clay loam; strong medium granular structure; firm; common very fine and fine and few medium and coarse roots throughout; 30 percent angular limestone flagstones; slightly alkaline; abrupt wavy boundary.

A2—4 to 8 inches; dark brown (7.5YR 3/3), exterior, and dark brown (7.5YR 3/4), rubbed, very flaggy clay; strong medium granular structure; firm; few very fine and fine and few medium and coarse roots throughout; 55 percent angular limestone flagstones; slightly alkaline.

R—8 to 12 inches; thinly bedded limestone with very thin vertical and horizontal seams of brownish clay.

Range in Characteristics

Depth to bedrock: 3 to 12 inches
Kind of rock fragments: Limestone
Reaction: Neutral to moderately alkaline

A horizon:
Hue—10YR or 7.5YR
Value—2 or 3
Chroma—2 or 3
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of rock fragments—25 to 65 percent

C horizon: (where present)
Hue—10YR or 7.5YR
Value—4
Chroma—3 or 4
Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
Content of rock fragments—35 to 65 percent

Guthrie Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow to very slow in the fragipan
Physiographic area: Highland Rim

Landform: Head of drainageway
Parent material: Loess and alluvium
Slope range: 0 to 2 percent
Associated soils: Dickson, Sango, Taft
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Typic Fragiaquults

Typical Pedon

Guthrie silt loam, ponded; 9.9 miles south on Highway 53 from the intersection with Highway 70S at Woodbury; 0.5 mile west on Smith Road; 1,800 feet north; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 41 minutes 42 seconds N. and long. 86 degrees 3 minutes 13 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; very friable; many fine and medium and common coarse roots throughout; many very fine and fine tubular pores; strongly acid; abrupt smooth boundary.

E—4 to 8 inches; light brownish gray (10YR 6/2) silt loam; weak medium granular structure; very friable; common fine, medium, and coarse roots throughout; common very fine and fine tubular pores; strongly acid; clear smooth boundary.

Bg—8 to 20 inches; gray (10YR 6/1) silt loam; moderate fine subangular blocky structure; friable; common fine, medium, and coarse roots throughout; common very fine and fine pores; few fine brownish yellow (10YR 6/6) masses of iron accumulation; strongly acid; clear wavy boundary.

Btx1—20 to 25 inches; gray (10YR 6/1) silt loam; moderate very coarse prismatic structure parting to moderate coarse platy; firm; many very fine and fine discontinuous tubular pores; common thin vertical seams of light gray (2.5Y 7/1) silt between prisms; few distinct continuous gray (10YR 5/1) clay films on faces of prisms; few fine prominent brownish yellow (10YR 6/6) masses of iron accumulation; brittle in 60 percent of the mass; very strongly acid; clear wavy boundary.

Btx2—25 to 45 inches; gray (2.5Y 5/1) silty clay loam; weak very coarse prismatic structure parting to strong medium angular blocky; firm; many fine and medium discontinuous tubular pores; common thin vertical seams of light gray (2.5Y 7/1) silt between prisms; many prominent continuous dark gray (2.5Y 4/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation; brittle in 60 percent of the mass; very strongly acid; clear wavy boundary.

Btx3—45 to 53 inches; light gray (2.5Y 7/1) silty clay loam; weak very coarse prismatic structure parting to moderate coarse platy; very firm; many distinct continuous gray (10YR 6/1) clay films on faces of prisms; brittle in 80 percent of the mass; very strongly acid; clear smooth boundary.

Btx4—53 to 61 inches; light gray (2.5Y 7/1) gravelly silty clay loam; weak very coarse platy structure; very firm; common fine and medium discontinuous tubular pores; common distinct gray (10YR 6/1) clay films on faces of prisms; few fine prominent brownish yellow (10YR 6/6) and few medium red (2.5YR 5/8) masses of iron accumulation; 30 percent subrounded limestone-siltstone gravel; brittle in 80 percent of the mass; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 40 inches
Depth to dominant chroma of 2 or less: 0 to 10 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
- Hue—2.5Y or 10YR
- Value—3 to 5
- Chroma—2 or 3
- Redoximorphic features—in shades of brown or gray
- Texture of the fine-earth fraction—silt loam
- Content of rock fragments—0 to 3 percent

E horizon:
- Hue—2.5Y or 10YR
- Value—5 or 6
- Chroma—2 or 3
- Redoximorphic features—in shades of brown or gray
- Texture of the fine-earth fraction—silt loam
- Content of rock fragments—0 to 3 percent

B horizon:
- Hue—2.5Y or 10YR
- Value—5 to 7
- Chroma—1 or 2
- Redoximorphic features—in shades of brown, gray, red, or yellow
- Texture of the fine-earth fraction—silt loam or silty clay loam
- Content of rock fragments—0 to 3 percent

Btx horizon:
- Hue—2.5Y or 10YR
- Value—5 to 7
- Chroma—1 or 2

Redoximorphic features—in shades of red, brown, gray, or yellow
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 15 percent, but up to 35 percent in the lower part

Hampshire Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderately slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 5 to 20 percent
Associated soils: Inman, Mimosa
Taxonomic class: Fine, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

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 of road:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many fine and medium roots; many fine pores; moderately acid; clear wavy boundary.
Bt1—6 to 13 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; friable; many fine roots; many fine pores; few faint clay films on faces of peds; few iron-manganese concretions; 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 fine and medium subangular blocky structure; firm; common fine roots; few fine pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine iron-manganese concretions; 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 fine and medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct brown (7.5YR 4/4) 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; 60 percent limestone-siltstone channers; strongly acid; gradual smooth boundary.
Cr—50 to 65 inches; weathered bedrock.

Range in Characteristics

A horizon:
Hue—10YR
Value—4 to 5
Chroma—3 to 6
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 5 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—6 to 8
Texture of the fine-earth fraction—clay, silty clay, or silty clay loam
Content of rock fragments—0 to 15 percent

2C horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—loam, clay loam, or silty clay loam
Content of rock fragments—15 to 35 percent

Hawthorne Series

Depth class: Moderately deep
Drainage class: Somewhat excessively drained
Permeability: Moderately rapid
Physiographic area: Highland Rim
Landform: Ridge
Parent material: Residuum
Slope range: 5 to 60 percent
Associated soils: Barfield, Dellrose, Gladdice, Sugargrove
Taxonomic class: Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts

Typical Pedon

Hawthorne gravelly silt loam, 30 to 60 percent slopes; 1 mile west on Jimtown Road from the intersection with Peeler Road at Sheybogan, south of Woodbury; 30 feet south of road; USGS Woodbury topographic quadrangle; lat. 35 degrees 45 minutes 56 seconds N. and long. 86 degrees 4 minutes 24 seconds W.

A—0 to 3 inches; brown (10YR 4/3), rubbed, gravelly silt loam; moderate fine granular structure; very friable; common medium and coarse and many

Figure 8.—Typical profile of Amour silt loam.

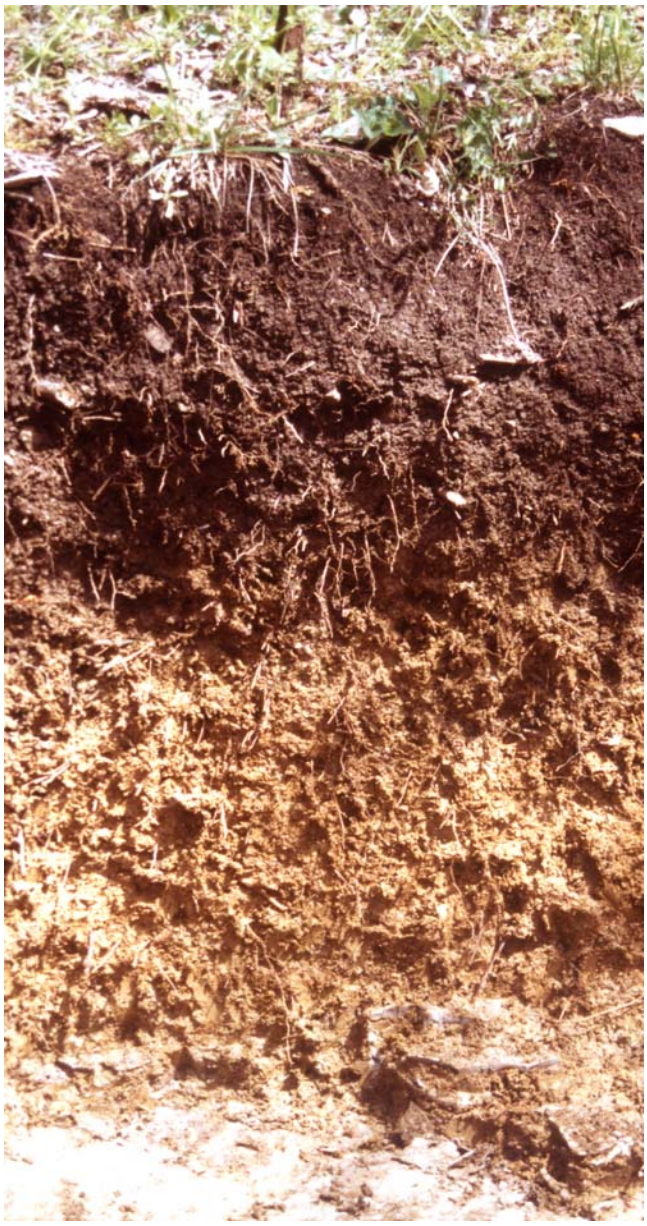

Figure 9.—Profile of Ashwood silty clay loam. The mollic epipedon extends to a depth of 11 inches. Limestone bedrock is at a depth of 35 inches.

Figure 10.—Typical profile of Barfield silty clay loam. The mollic epipedon extends to a depth of 10 inches. Limestone bedrock is at a depth of 16 inches.

Figure 11.—Typical profile of Dickson silt loam. This soil has a fragipan at a depth of 23 inches over older alluvium at a depth of 40 inches.

Figure 12.—Typical profile of Etowah gravelly silt loam.

Figure 13.—Profile of Inman flaggy clay. Rock fragments are common in this residual soil.

Figure 14.—Profile of Mountview silt loam. This soil has a loess mantle over older alluvium.

Figure 15.—Typical profile of Talbott silty clay loam. Limestone bedrock is at a depth of 30 inches.

very fine and fine roots throughout; many fine interstitial pores; 30 percent angular limestone-cherty gravel; very strongly acid; abrupt smooth boundary.

E—3 to 8 inches; brown (10YR 5/3), interior, very gravelly silt loam; moderate fine granular structure; very friable; common very fine, fine, medium, and coarse roots throughout; common very fine and fine tubular pores; 40 percent subangular limestone-cherty gravel; very strongly acid; clear smooth boundary.

Bw—8 to 21 inches; light yellowish brown (10YR 6/4), interior, very gravelly silt loam; weak fine subangular blocky structure; very friable; 60 percent angular limestone-cherty gravel; very strongly acid; clear smooth boundary.

C—21 to 25 inches; light yellowish brown (10YR 6/4), interior, extremely channery silt loam; friable; few distinct patchy dark yellowish brown (10YR 4/6) clay films coating rock fragments; 77 percent subangular limestone-cherty gravel and channers of siltstone; very strongly acid; abrupt wavy boundary.

Cr—25 to 30 inches; thinly bedded, fractured layers of weathered siltstone and unweathered chert with thin seams of very pale brown silt loam in cracks.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—10 to 60 percent

E horizon:
Hue—10YR
Value—5 to 7
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—10 to 60 percent

B horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam, loam, or silty clay loam
Content of rock fragments—35 to 60 percent

C horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—35 to 80 percent

Inman Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Moderately slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 5 to 35 percent
Associated soils: Barfield, Capshaw, Talbott
Taxonomic class: Fine, mixed, active, thermic Ruptic-Alfic Eutrudepts

Typical Pedon

Inman flaggy clay, 12 to 35 percent slopes, severely eroded; 0.75 mile south on Highway 64 from the intersection with Highway 70S west of Woodbury; 2.85 miles south on Burt-Burgen Road; 0.45 mile west on Gaither Road; 1,400 feet southwest of road; USGS Readyville topographic quadrangle; lat. 35 degrees 45 minutes 9 seconds N. and long. 86 degrees 8 minutes 36 seconds W.

Ap—0 to 3 inches; dark yellowish brown (10YR 4/4), crushed, flaggy clay; weak medium granular structure; firm; many very fine and fine roots throughout; 20 percent angular limestone flagstones; neutral; abrupt smooth boundary.

Bw1—3 to 8 inches; yellowish brown (10YR 5/4), interior, flaggy clay; moderate medium subangular blocky structure; firm; many very fine and fine roots throughout; few faint clay films on faces of peds in pockets; 20 percent angular limestone-shale flagstones; slightly alkaline; clear smooth boundary.

Bw2—8 to 16 inches; light olive brown (2.5Y 5/4), interior, flaggy clay; weak medium subangular blocky structure; firm; common very fine and fine roots throughout; 30 percent subangular limestone-shale flagstones; slightly alkaline; clear smooth boundary.

C/B—16 to 28 inches; 70 percent of the horizon is highly fractured soft light olive brown (2.5Y 5/4) shale and limestone in strata up to 1 inch thick (C part); light olive brown (2.5Y 5/4), interior, clay (B part); common fine prominent brownish yellow

(10YR 6/8) and common fine distinct light brownish gray (2.5Y 6/2) platelike mottles around stones; firm; few very fine and fine roots matted around stones; slightly alkaline; clear smooth boundary.

Cr—28 to 34 inches; soft light olive brown (2.5Y 5/4) limestone and shale; strata up to 2 inches thick with fractures up to 7 inches apart; manganese stains on horizontal surfaces of fragments; seams of light brownish gray (2.5Y 6/2) silty clay between some strata.

Range in Characteristics

Depth to bedrock: Less than 40 inches
Kind of rock fragments: Limestone and shale (fig. 13)
Reaction: Moderately acid to moderately alkaline

A horizon:
Hue—10YR
Value—4 or 5
Chroma—2 to 4
Texture of the fine-earth fraction—silty clay loam or clay or rarely silt loam
Content of rock fragments—10 to 35 percent

B horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—3 to 6
Texture of the fine-earth fraction—silty clay or clay
Content of rock fragments—10 to 35 percent

C horizon:
Hue—10YR or 2.5YR
Value—4 or 5
Chroma—3 to 6
Texture of the fine-earth fraction—clay
Content of rock fragments—35 to 70 percent

Jefferson Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Highland Rim-Cumberland Plateau-Short Mountain
Landform: Mountain
Parent material: Local colluvium
Slope range: 20 to 60 percent
Associated soils: Lonewood, Nella, Talbott
Taxonomic class: Fine-loamy, siliceous, semiactive, mesic Humic Hapludults

Typical Pedon

Jefferson and Nella, stony loams, 20 to 60 percent slopes; 2.2 miles west on Gunter Hollow Road from Highway 146; 350 feet west along power line right-of-way from Bible camp gate; USGS Short Mountain topographic quadrangle; lat. 35 degrees 52 minutes 18 seconds N. and long. 85 degrees 57 minutes 30 seconds W.

Oi—1 inch to 0; partially decomposed leaves, twigs.

A—0 to 7 inches; very dark grayish brown (10YR 3/2), exterior, and dark brown (10YR 3/3), rubbed, stony loam; moderate medium granular structure; very friable; common very fine, fine, medium, and coarse roots throughout; common very fine, fine, and medium tubular pores; 10 percent subrounded sandstone cobbles and 10 percent subrounded sandstone gravel; moderately acid; clear smooth boundary.

BA—7 to 18 inches; dark yellowish brown (10YR 3/4), rubbed, cobbly loam; moderate fine subangular blocky structure; friable; common very fine, fine, and medium roots throughout; common fine tubular pores and common medium tubular pores; 10 percent subrounded sandstone cobbles and 10 percent subrounded sandstone gravel; strongly acid; gradual smooth boundary.

Bt1—18 to 36 inches; dark yellowish brown (10YR 4/4), interior, cobbly loam; moderate fine subangular blocky structure; friable; few fine medium roots throughout; common fine, many medium, and few coarse tubular pores; few distinct dark brown (7.5YR 3/4) clay films on faces of peds; 20 percent subrounded sandstone cobbles and 5 percent subrounded sandstone gravel; strongly acid; gradual smooth boundary.

Bt2—36 to 61 inches; brown (7.5YR 4/4), interior, very stony clay loam; moderate fine subangular blocky structure; friable; few fine roots throughout; common very fine and common medium tubular pores; common distinct brown (7.5YR 4/4) clay films on faces of peds; 20 percent subrounded sandstone cobbles and 30 percent subrounded sandstone stones; strongly acid; gradual smooth boundary.

BC—61 to 80 inches; yellowish brown (10YR 5/4), interior, very cobbly loam; moderate fine subangular blocky structure; friable; common very fine, fine, and medium tubular pores; few faint dark yellowish brown (10YR 4/4), moist, clay films on faces of peds; 30 percent subrounded sandstone cobbles and 20 percent subrounded sandstone gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches

Kind of rock fragments: Sandstone and quartzite pebbles
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—3
Chroma—2 to 4
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—10 to 35 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 6
Texture of the fine-earth fraction—loam or clay loam
Content of rock fragments—15 to 35 percent and up to 60 percent in the lower part

The Jefferson soils in this survey are taxadjuncts because of the darker color and the thickness of the surface layer compared to that defined for the series. These differences, however, do not significantly affect the use, management, or interpretation of the soils. In this survey the Jefferson soils are fine-loamy, siliceous, mesic, Humic Hapludults.

Lee Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Head of drainageway; flood plain
Parent material: Alluvium
Slope range: 0 to 2 percent
Associated soils: Lobelville, Guthrie
Taxonomic class: Fine-loamy, siliceous, semiactive, acid, thermic Typic Endoaquepts

Typical Pedon

Lee silt loam, ponded; 8.0 miles south on Highway 53 from the intersection with Highway 70S at Woodbury; 1.1 miles west on Myrtle Road; 900 feet south of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 43 minutes 3 seconds N. and long. 86 degrees 4 minutes 36 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2), crushed, silt loam; moderate medium granular structure; very friable; common very fine and fine roots throughout; common very fine and fine interstitial pores; strongly acid; clear smooth boundary.

AB—4 to 7 inches; grayish brown (10YR 5/2), crushed, silt loam; weak medium granular structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; common fine prominent strong brown (7.5YR 5/8) iron concentrations; strongly acid; clear smooth boundary.

Bg1—7 to 16 inches; gray (10YR 6/1), interior, silt loam; weak fine subangular blocky structure; friable; common fine and few medium roots throughout; common very fine and fine tubular pores; 2 percent rounded limestone-siltstone gravel; strongly acid; abrupt smooth boundary.

2Bg2—16 to 32 inches; gray (10YR 6/1), interior, gravelly silt loam; weak fine subangular blocky structure; friable; few fine and few medium roots throughout; few very fine and fine tubular pores; common fine and medium irregular iron-manganese concretions; 20 percent subrounded limestone-siltstone gravel; very strongly acid; clear smooth boundary.

2Cg—32 to 65 inches; gray (10YR 6/1), interior, very gravelly loam; massive; friable; common fine and medium irregular iron-manganese concretions; 45 percent rounded limestone-siltstone gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to dominant chroma of 2 or less: 0 to 6 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 or 5
Chroma—1 to 3
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—0 to 15 percent

Bg horizon:
Hue—10YR or 2.5Y
Value—4 to 6
Chroma—0 to 2
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—0 to 35 percent

Cg horizon:
Hue—10YR or 2.5Y
Value—5 or 6
Chroma—0 to 2

Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—30 to 60 percent

Lindell Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Physiographic area: Nashville Basin
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 2 percent
Associated soils: Arrington, Egam, Armour, Ocana
Taxonomic class: Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts

Typical Pedon

Lindell silt loam, occasionally flooded; 0.85 mile north on Highway 53 to Cavender Road from the intersection with Highway 70S at Woodbury; 120 feet east of Cavender Road; 120 feet north of creek; USGS Woodbury topographic quadrangle; lat. 35 degrees 49 minutes 51 seconds N. and long. 86 degrees 2 minutes 45 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3), crushed, silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; many very fine and fine tubular pores; 2 percent subrounded limestone-cherty gravel; slightly acid; abrupt smooth boundary.

Bw1—7 to 15 inches; brown (10YR 4/3), interior, silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; many very fine and fine tubular pores; 2 percent subrounded limestone-cherty gravel; slightly acid; clear smooth boundary.

Bw2—15 to 22 inches; dark yellowish brown (10YR 4/4), interior, silt loam; moderate medium granular structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; common fine faint brown (10YR 5/3) threads as iron depletions throughout; 2 percent subrounded limestone-cherty gravel; slightly acid; clear smooth boundary.

Bw3—22 to 29 inches; brown (10YR 5/3), interior, clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; many fine and medium faint grayish brown (10YR 5/2) irregular iron depletions throughout; few distinct brown (7.5YR 4/4) manganese or iron-manganese stains on faces of peds; common fine and medium rounded iron-manganese concretions throughout; 2 percent subrounded limestone-cherty gravel; neutral; clear smooth boundary.

Bg—29 to 34 inches; gray (2.5Y 5/1), interior, clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine and medium irregular dark yellowish brown (10YR 4/6) soft masses of iron accumulation throughout; 5 percent subrounded limestone-cherty gravel; slightly acid; clear smooth boundary.

C—34 to 65 inches; pale brown (10YR 6/3), interior, gravelly clay loam; massive; firm; common prominent black (10YR 2/1) manganese or iron-manganese stains on rock fragments; many fine and medium rounded iron-manganese concretions throughout; 25 percent subrounded limestone-cherty gravel; slightly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Moderately acid to neutral

A horizon:
Hue—10YR
Value—4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 20 percent

Bw horizon (upper part):
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Redoximorphic features—in shades of brown or gray in the lower part
Texture of the fine-earth fraction—silt loam, loam, or clay loam
Content of rock fragments—0 to 15 percent

Bw horizon (lower part):
Hue—10YR
Value—4 to 6
Chroma—1 to 4
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silt loam, loam, or clay loam
Content of rock fragments—0 to 15 percent

C horizon:
Hue—10YR or 2.5Y

Value—4 to 6
Chroma—1 to 4
Redoximorphic features—in shades of brown and gray
Texture of the fine-earth fraction—loam or clay loam
Content of rock fragments—10 to 30 percent

Lobelville Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 3 percent
Associated soils: Lee, Monongahela, Tarklin, Trace
Taxonomic class: Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts

Typical Pedon

Lobelville gravelly silt loam, frequently flooded; 1.3 miles east on Ivy Bluff Road from the intersection with Highway 53S; 800 feet north of Ivy Bluff Road; 150 feet south of the channel of Duke Creek; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 39 minutes 46 seconds N. and long. 86 degrees 2 minutes 48 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2), crushed, gravelly silt loam; moderate medium granular structure; friable; common very fine, fine, medium, and coarse roots throughout; common medium tubular pores and common very fine and fine tubular pores; 13 percent subangular gravel; strongly acid; abrupt smooth boundary.

Bw1—4 to 18 inches; brown (10YR 5/3), interior, gravelly silt loam; weak fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots throughout; many very fine and fine tubular pores; 17 percent subrounded gravel and subangular gravel; very strongly acid; clear smooth boundary.

Bw2—18 to 24 inches; brown (10YR 5/3), interior, gravelly silt loam; weak fine subangular blocky structure; friable; common very fine, fine, and medium roots throughout; many very fine and fine tubular pores; many medium grayish brown (2.5Y 5/2) iron depletions and few fine yellowish brown (10YR 5/6) masses of iron accumulation; 20 percent subrounded gravel; strongly acid; clear smooth boundary.

Bg—24 to 31 inches; light brownish gray (10YR 6/2), interior, gravelly loam; weak fine subangular blocky structure; friable; common very fine, fine and medium roots throughout; common very fine and fine tubular pores and common medium tubular pores; common fine dark yellowish brown (10YR 4/6) masses of iron accumulation; 25 percent gravel; strongly acid; abrupt smooth boundary.

Cg—31 to 62 inches; light brownish gray (10YR 6/2), interior, extremely gravelly loam; massive; friable; 70 percent gravel and angular cobbles; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Strongly acid to moderately acid

A horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam, loam, or rarely sandy loam
Content of rock fragments—5 to 25 percent

Bw horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Redoximorphic features—in shades of brown or gray in the lower part
Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam
Content of rock fragments—5 to 25 percent

Bg horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—1 or 2
Redoximorphic features—in shades of red or brown
Texture of the fine-earth fraction—silt loam, loam, clay loam, or silty clay loam
Content of rock fragments—10 to 30 percent

Cg or C horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—1 to 4
Redoximorphic features—in shades of brown, gray, or yellow
Texture of the fine-earth fraction—loam, clay loam, or sandy loam
Content of rock fragments—35 to 90 percent

Lonewood Series

Depth class: Deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Cumberland Plateau-Short Mountain
Landform: Mountain
Parent material: Residuum
Slope range: 4 to 12 percent
Associated soils: Gilpin, Jefferson, Nella
Taxonomic class: Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

Typical Pedon

Lonewood silt loam, 4 to 12 percent slopes; 2.7 miles from the intersection of Highway 146 on Gunter Hollow Road; 250 feet west of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 52 minutes 8 seconds N. and long. 85 degrees 58 minutes 34 seconds W.

A—0 to 2 inches; very dark grayish brown (10YR 3/2), exterior, and dark brown (10YR 3/3), rubbed, silt loam; moderate fine granular structure; very friable; many very fine and fine roots throughout; many very fine and fine interstitial pores; strongly acid; abrupt smooth boundary.

BE—2 to 7 inches; yellowish brown (10YR 5/4), interior, silt loam; moderate medium granular structure; very friable; common very fine and fine roots; common medium tubular pores and common fine tubular pores; very strongly acid; clear smooth boundary.

Bt1—7 to 17 inches; yellowish brown (10YR 5/6), interior, silt loam; moderate fine subangular blocky structure; friable; common fine and common medium roots throughout; many very fine and fine tubular pores; very few faint discontinuous clay films on faces of peds and in pores; very strongly acid; gradual smooth boundary.

Bt2—17 to 33 inches; strong brown (7.5YR 5/6), interior, loam; moderate fine subangular blocky structure; friable; common very fine, fine, and medium roots throughout; many very fine and fine tubular pores; common faint clay films on faces of peds and in pores; very strongly acid; clear smooth boundary.

2Bt3—33 to 52 inches; yellowish red (5YR 4/6), interior, clay loam; many fine and medium distinct strong brown (7.5YR 5/6) and common medium distinct red (2.5YR 4/6) mottles throughout; moderate medium subangular blocky structure; friable; common very fine and fine tubular pores; many distinct continuous reddish brown (5YR 4/4) clay films on faces of peds and in pores; very strongly acid; abrupt wavy boundary.

Cr—52 to 56 inches; reddish yellow (7.5YR 6/8) soft sandstone.

Range in Characteristics

Depth to bedrock: 40 to 60 inches
Kind of rock fragments: Sandstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—3 to 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—0 to 5 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—5
Chroma—4 or 6
Texture of the fine-earth fraction—loam or silt loam
Content of rock fragments—0 to 5 percent

2Bt horizon:
Hue—5YR
Value—4 or 5
Chroma—6 to 8
Texture of the fine-earth fraction—loam or clay loam
Content of rock fragments—0 to 5 percent

Mimosa Series

Depth class: Deep
Drainage class: Well drained
Permeability: Slow
Physiographic area: Nashville Basin
Landform: Hill
Parent material: Residuum
Slope range: 3 to 25 percent
Associated soils: Dellrose, Inman, Barfield, Gladdice
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludalfs

Typical Pedon

Mimosa silty clay loam, 3 to 12 percent slopes, eroded; 0.6 mile east on Highway 70S from the intersection of Manchester Highway and Highway 70S at Woodbury; 0.5 mile south on Houston Lane; 0.2 mile south on farm lane; 90 feet east of road; USGS Woodbury topographic quadrangle; lat. 35 degrees 49

minutes 1 second N. and long. 86 degrees 3 minutes 33 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; common fine distinct light olive brown (2.5Y 5/3) mottles; moderate medium granular structure; friable; many very fine and fine roots throughout; common very fine, fine, and medium interstitial pores; moderately acid; abrupt smooth boundary.

Bt1—7 to 22 inches; strong brown (7.5YR 5/6) clay; strong fine subangular blocky structure; firm; common very fine and fine roots throughout; common very fine tubular pores; many distinct continuous brown (7.5YR 5/4) clay films; common fine rounded manganese nodules throughout; 5 percent subangular limestone-cherty gravel; moderately acid; clear smooth boundary.

Bt2—22 to 34 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm; common very fine and fine roots throughout; many prominent continuous yellowish brown (10YR 5/4) clay films on faces of peds; common fine rounded manganese nodules throughout and common medium irregular masses of manganese accumulation throughout; 2 percent subangular limestone-cherty gravel; moderately acid; clear smooth boundary.

Bt3—34 to 42 inches; yellowish brown (10YR 5/6) clay; common fine distinct light olive brown (2.5Y 5/3) mottles; weak medium subangular blocky structure; very firm; common distinct continuous yellowish brown (10YR 5/4) clay films; common fine rounded manganese nodules throughout and common fine irregular masses of manganese accumulation throughout; moderately acid; abrupt smooth boundary.

BC—42 to 47 inches; light olive brown (2.5Y 5/4) clay; many medium distinct olive brown (2.5Y 4/3) mottles; weak coarse subangular blocky structure; very firm; common medium rounded manganese nodules throughout and few fine irregular masses of manganese accumulation throughout; neutral; abrupt smooth boundary.

R—47 to 51 inches; unweathered limestone.

Range in Characteristics

Depth to bedrock: 40 to 60 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Strongly acid to moderately alkaline

A horizon:
Hue—10YR
Value—4
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—10 to 15 percent

Bt horizon:
Hue—7.5YR or 10YR
Value—4 or 5
Chroma—6 or 8
Texture of the fine-earth fraction—clay
Content of rock fragments—5 to 10 percent

BC horizon:
Hue—10YR or 2.5Y
Value—4 or 5
Chroma—4
Texture of the fine-earth fraction—clay

Monongahela Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Physiographic area: Highland Rim
Landform: Stream terrace
Parent material: Alluvium
Slope range: 1 to 5 percent
Associated soils: Dickson, Lobelville, Mountview
Taxonomic class: Fine-loamy, mixed, semiactive, mesic Typic Fragiudults

Typical Pedon

Monongahela silt loam, 1 to 5 percent slopes; east of Woodbury; 1.8 miles east on Purser Hill Road from the intersection with Highway 146 at Short Mountain School; 1.0 mile east on Warren Road; 70 feet south of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 49 minutes 57 seconds N. and long. 85 degrees 54 minutes 7 seconds W.

Ap—0 to 9 inches; brown (10YR 5/3), crushed, silt loam; moderate medium granular structure; friable; many very fine and fine roots throughout; common very fine and fine interstitial pores; few fine and medium rounded iron-manganese concretions throughout; 1 percent subangular limestone-cherty gravel; slightly acid; abrupt smooth boundary.

Bt—9 to 24 inches; yellowish brown (10YR 5/4), interior, silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; few faint clay films on faces of peds and in pores; common fine and medium rounded iron-

manganese concretions throughout; 1 percent subangular limestone-cherty gravel; strongly acid; clear wavy boundary.

Btx1—24 to 45 inches; light yellowish brown (10YR 6/4), interior, loam; strong very coarse prismatic structure parting to strong coarse platy; firm; few very fine and fine roots in seams between prisms; many very fine and fine discontinuous tubular pores; many distinct continuous brown (10YR 5/3) clay films on faces of prisms; few distinct light gray (10YR 7/1) silt coats on faces of prisms; pale brown (10YR 6/3) silt loam in vertical seams between prisms; common prominent reddish yellow (7.5YR 6/8), exterior, to brownish yellow (10YR 6/6), interior, iron concentrations 0.5 inch thick on vertical faces of prisms; common medium distinct brownish yellow (10YR 6/6) irregular iron accumulations and common medium distinct light gray (10YR 7/1) irregular iron depletions throughout; common fine and medium irregular masses of iron-manganese accumulation and common fine and medium rounded iron-manganese concretions throughout; 1 percent rounded quartzite gravel and 1 percent subrounded limestone-cherty gravel; brittle in 90 percent of the horizon; very strongly acid; clear wavy boundary.

Btx2—45 to 58 inches; brownish yellow (10YR 6/6), interior, loam; common medium prominent strong brown (7.5YR 5/8) mottles; weak very coarse prismatic structure parting to moderate fine angular blocky; firm; many very fine and fine discontinuous tubular pores; few faint clay films on faces of prisms and in pores; common medium and coarse prominent light gray (10YR 7/2) iron depletions; common fine and medium rounded iron-manganese concretions throughout; 1 percent subangular limestone-cherty gravel and 1 percent rounded quartzite gravel; brittle in 50 percent of the mass; very strongly acid; clear wavy boundary.

BC—58 to 65 inches; brownish yellow (10YR 6/6), interior, loam; common medium prominent strong brown (7.5YR 5/8) mottles; weak very coarse prismatic structure parting to weak fine angular blocky; friable; few very fine and fine tubular pores; firm; common medium and coarse prominent light gray (10YR 7/2) iron depletions on faces of prisms; common fine and medium rounded iron-manganese concretions throughout; 1 percent subangular limestone-cherty gravel and 1 percent rounded quartzite gravel; brittle in 20 percent of the mass; very strongly acid; gradual wavy boundary.

C—65 to 74 inches; brownish yellow (10YR 6/6), interior, loam; few fine prominent strong brown (7.5YR 5/8) mottles; massive; friable; vertical seams of light gray (10YR 7/2) silty clay loam up to 1 inch thick; 1 percent rounded quartzite gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 20 to 30 inches
Kind of rock fragments: Limestone-cherty and quartzite pebbles
Reaction: Very strongly acid to strongly acid

A horizon:
- Hue—10YR
- Value—4 or 5
- Chroma—2 to 4
- Redoximorphic features—in shades of silt loam or loam
- Texture of the fine-earth fraction—silt loam or loam
- Content of rock fragments—0 to 15 percent

Bt horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—4 to 6
- Texture of the fine-earth fraction—silt loam or loam
- Content of rock fragments—0 to 15 percent

Btx horizon:
- Hue—10YR or 2.5Y
- Value—4 to 6
- Chroma—2 to 6
- Redoximorphic features—in shades of brown and gray
- Texture of the fine-earth fraction—silt loam, loam, or clay loam
- Content of rock fragments—0 to 15 percent

C horizon:
- Hue—10YR or 2.5y
- Value—4 to 7
- Chroma—2 to 8
- Redoximorphic features—in shades of brown and gray
- Texture of the fine-earth fraction—loam, sandy loam, or clay loam
- Content of rock fragments—0 to 30 percent

The Monongahela soils in this survey are taxadjuncts because of temperature and mineralogy. These differences, however, do not significantly affect the use, management, or interpretations of the soils. In

this survey the Monongahela soils are fine-loamy, mixed, mesic Typic Fragiudults.

Mountview Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Divide
Parent material: Loess over alluvium (fig. 14)
Slope range: 2 to 12 percent
Associated soils: Bewleyville, Christian, Dickson
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Oxyaquic Paleudults

Typical Pedon

Mountview silt loam, 2 to 5 percent slopes; 9.9 miles south on Highway 53 from the intersection with Highway 70S at Woodbury; 1.1 miles west on Smith Road; 175 feet north of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 41 minutes 26 seconds N. and long. 86 degrees 4 minutes 48 seconds W.

Ap—0 to 8 inches; brown (10YR 5/3), crushed, silt loam; weak fine granular structure; very friable; common fine roots throughout; common very fine pores; slightly acid; abrupt smooth boundary.

BE—8 to 12 inches; yellowish brown (10YR 5/4), interior, silt loam; weak fine subangular blocky structure; friable; common fine roots throughout; common very fine pores; slightly acid; gradual smooth boundary.

Bt—12 to 24 inches; yellowish brown (10YR 5/6), interior, silt loam; moderate fine subangular blocky structure; friable; common fine roots throughout; common very fine pores; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

B/E—24 to 27 inches; 70 percent yellowish brown (10YR 5/4), interior, silt loam (Bt part); moderate fine subangular blocky structure; friable; common distinct brown (10YR 5/3) clay films on faces of peds; 30 percent light yellowish brown (10YR 6/4), interior, silt loam (E part); weak medium granular structure; very friable; common fine roots throughout; common very fine pores; few fine pale brown (10YR 6/3) iron depletions; strongly acid; clear wavy boundary.

2Bt2—27 to 32 inches; yellowish red (5YR 5/6), interior, silty clay loam; common medium prominent yellowish brown (10YR 5/4) mottles; moderate fine subangular blocky structure; friable; common very fine and fine pores; many prominent reddish brown (5YR 5/4) clay films on faces of peds and in pores; very strongly acid; gradual smooth boundary.

2Bt3—32 to 60 inches; yellowish red (5YR 4/6), interior, clay; few fine prominent yellowish brown (10YR 5/4), few fine prominent strong brown (7.5YR 5/6), and few fine faint red (2.5YR 4/6) mottles; strong fine angular blocky structure; friable; common very fine and fine pores; many distinct reddish brown (5YR 4/4) clay films on faces of peds and in pores; 2 percent subrounded limestone-cherty gravel; very strongly acid; gradual smooth boundary.

2Bt4—60 to 75 inches; red (2.5YR 4/6), interior, clay; common fine prominent strong brown (7.5YR 5/8) mottles; strong fine angular blocky structure; friable; many distinct reddish brown (2.5YR 4/4) clay films; few fine gray (10YR 6/1) iron depletions; 5 percent subrounded limestone-cherty gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
- Hue—10YR
- Value—4 to 6
- Chroma—2 to 4
- Texture of the fine-earth fraction—silt loam
- Content of rock fragments—0 to 5 percent

Bt horizon:
- Hue—10YR or 7.5YR
- Value—4 or 5
- Chroma—4 to 8
- Redoximorphic features—in shades of brown or gray in the lower part
- Texture of the fine-earth fraction—silt loam or silty clay loam
- Content of rock fragments—0 to 5 percent

2Bt horizon:
- Hue—5YR or 2.5YR
- Value—4 or 5
- Chroma—6 or 8
- Texture of the fine-earth fraction—silty clay loam, silty clay, or clay
- Content of rock fragments—0 to 35 percent

Nella Series

Depth class: Very deep
Drainage class: Well drained

Permeability: Moderate
Physiographic area: Highland Rim-Cumberland Plateau-Short Mountain
Landform: Mountain
Parent material: Local colluvium
Slope range: 20 to 60 percent
Associated soils: Jefferson, Lonewood, Talbott
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Paleudults

Typical Pedon

Jefferson and Nella, stony loams, 20 to 60 percent slopes; 1.95 miles west on Gunter Hollow Road from the intersection with Highway 146; 50 feet west of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 52 minutes 12 seconds N. and long. 85 degrees 59 minutes 10 seconds W.

Oi—1 inch to 0; decomposed roots and twigs.
A—0 to 4 inches; very dark grayish brown (10YR 3/2), interior, and dark brown (10YR 3/3), rubbed, stony loam; moderate medium granular structure; very friable; common very fine, fine, and medium roots throughout; many very fine, fine, and medium interstitial and tubular pores; 20 percent sandstone cobbles and 10 percent quartzite gravel; moderately acid; clear smooth boundary.
BE—4 to 10 inches; yellowish brown (10YR 5/4), interior, cobbly loam; moderate fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots throughout; many very fine, fine, and medium tubular pores; 10 percent sandstone cobbles and 7 percent sandstone gravel; strongly acid; clear smooth boundary.
Bt1—10 to 17 inches; strong brown (7.5YR 5/6), interior, cobbly loam; moderate fine subangular blocky structure; friable; common very fine, fine, medium, and coarse roots throughout; many very fine, fine, and medium tubular pores; few faint clay skins on faces of peds and in pores; 10 percent subangular sandstone cobbles, 7 percent subangular sandstone gravel, and 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.
Bt2—17 to 24 inches; yellowish red (5YR 5/6), interior, cobbly clay loam; moderate fine subangular blocky structure; friable; few coarse roots and common very fine, fine, and medium roots throughout; many very fine, fine, and medium tubular pores; few distinct reddish brown (5YR 5/4) clay skins on faces of peds and in pores; 10 percent subangular sandstone cobbles, 5 percent subangular sandstone gravel, and 1 percent rounded quartzite gravel; very strongly acid; clear smooth boundary.
Bt3—24 to 44 inches; yellowish red (5YR 4/6), interior, stony clay loam; many medium red (2.5YR 4/6) and few fine yellowish brown (10YR 5/4) mottles; strong medium subangular blocky structure; friable; common very fine, fine, medium, and coarse roots throughout; common very fine, fine, and medium tubular pores; common distinct reddish brown (5YR 5/4) clay skins on faces of peds and in pores; 5 percent subangular sandstone stones, 5 percent subangular sandstone cobbles, 5 percent subangular sandstone gravel, and 5 percent rounded quartzite gravel; very strongly acid; gradual smooth boundary.
Bt4—44 to 80 inches; red (2.5YR 4/8), interior, stony clay loam; common medium yellowish red (5YR 4/6) and common fine yellowish brown (10YR 5/4) mottles; strong fine subangular blocky structure; friable; few fine and medium roots; common very fine and fine tubular pores; common distinct red (2.5YR 4/6) clay skins on faces of peds and in pores; 15 percent subangular sandstone stones, 5 percent subangular sandstone cobbles, and 15 percent subangular quartzite gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Sandstone and quartzite pebbles
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—loam
Content of rock fragments—15 to 35 percent

Bt horizon:
Hue—5YR or 2.5YR, or 7.5YR in the upper part
Value—4 or 5
Chroma—6 or 8
Texture of the fine-earth fraction—loam in upper part, clay loam
Content of rock fragments—15 to 35 percent

Ocana Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Physiographic area: Nashville Basin
Landform: Flood plain
Parent material: Alluvium

Slope range: 0 to 3 percent
Associated soils: Arrington, Armour, Egam, Lindell
Taxonomic class: Fine-loamy, mixed, active, thermic Dystric Fluventic Eutrudepts

Typical Pedon

Ocana gravelly silt loam, occasionally flooded; 0.55 mile east on Stones River Road from the intersection with Highway 53N; 300 feet south of Stones River Road; 20 feet east of Parchcorn Hollow Road; USGS Woodbury topographic quadrangle; lat. 35 degrees 49 minutes 37 seconds N. and long. 86 degrees 1 minute 37 seconds W.

Ap—0 to 8 inches; brown (10YR 4/3) gravelly silt loam; moderate fine granular structure; friable; many very fine and fine roots; common very fine interstitial pores; 17 percent subangular limestone-cherty gravel; moderately acid; abrupt smooth boundary.

A1—8 to 12 inches; brown (10YR 4/3) gravelly silt loam; moderate fine granular structure; friable; many very fine and fine roots; common very fine and fine tubular pores; 17 percent subangular limestone-cherty gravel; moderately acid; clear smooth boundary.

A2—12 to 24 inches; dark brown (10YR 3/3), exterior, brown (10YR 4/3), interior, and brown (10YR 4/3), rubbed, gravelly silt loam; moderate fine subangular blocky structure; friable; many very fine and fine roots; common very fine and fine tubular pores; 15 percent subangular limestone-cherty gravel; slightly acid; clear wavy boundary.

Bw1—24 to 36 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; 33 percent subangular limestone-cherty gravel; slightly acid; clear wavy boundary.

Bw2—36 to 45 inches; dark yellowish brown (10YR 4/4) very gravelly loam; weak fine subangular blocky structure; friable; common very fine and fine roots; 35 percent subangular limestone-cherty gravel; slightly acid; clear wavy boundary.

C—45 to 72 inches; dark yellowish brown (10YR 4/4) very gravelly clay loam; massive; firm; 45 percent subangular limestone-cherty gravel; neutral.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Moderately acid to neutral

A horizon:
Hue—10YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or loam
Content of rock fragments—15 to 35 percent

Bw horizon:
Hue—10YR
Value—4 or 5
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam, loam, or clay loam
Content of rock fragments—15 to 35 percent

C horizon:
Hue—10YR
Value—4 or 5
Chroma—3 to 6
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silt loam, loam, or clay loam
Content of rock fragments—15 to 60 percent

Sango Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Physiographic area: Highland Rim
Landform: Divide
Parent material: Loess over residuum
Slope range: 0 to 2 percent
Associated soils: Dickson, Mountview, Taft
Taxonomic class: Coarse-silty, siliceous, semiactive, thermic Glossic Fragiudults

Typical Pedon

Sango silt loam; 9.9 miles south on Highway 53S from the intersection with Highway 70S; 1.6 miles east on McMahan Road; 1,250 feet south of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 41 minutes 30 seconds N. and long. 86 degrees 2 minutes 17 seconds W.

Ap—0 to 9 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable; few very fine roots; slightly acid; abrupt smooth boundary.

Bw1—9 to 17 inches; light olive brown (2.5Y 5/4) silt loam; weak fine subangular blocky structure; friable; few very fine roots; common very fine and fine tubular pores; strongly acid; gradual smooth boundary.

Bw2—17 to 24 inches; light olive brown (2.5Y 5/4) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; common very fine and

fine tubular pores; 2 percent subrounded limestone-cherty gravel; strongly acid; clear wavy boundary.

B/E—24 to 27 inches; 60 percent light olive brown (2.5Y 5/4) silt loam (Bx part); moderate fine and medium platy structure; firm; 40 percent light yellowish brown (2.5Y 6/3) silt loam (E part); weak medium granular structure; friable; common very fine and fine tubular pores; common fine light brownish gray (2.5Y 6/2) iron depletions; brittle in 40 percent of the mass; strongly acid; abrupt irregular boundary.

Btx1—27 to 38 inches; light yellowish brown (2.5Y 6/4) silt loam; weak very coarse prismatic and moderate thick platy structure; very firm; many fine discontinuous tubular pores; common distinct continuous light yellowish brown (2.5Y 6/3) clay films on faces of prisms and in pores; common fine masses of manganese accumulation; common fine prominent gray (10YR 6/1) iron depletions; 2 percent limestone-cherty gravel; brittle in 70 percent of the mass; very strongly acid; gradual wavy boundary.

Btx2—38 to 48 inches; light olive brown (2.5Y 5/4) silt loam; weak very coarse prismatic and moderate thick platy structure; very firm; many fine discontinuous tubular pores; common distinct continuous light yellowish brown (2.5Y 6/3) clay films on faces of prisms and in pores; common fine masses of manganese accumulation; few medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine prominent gray (10YR 6/1) iron depletions; 7 percent limestone-cherty gravel; brittle in 80 percent of the mass; very strongly acid; clear wavy boundary.

2Bt—48 to 62 inches; brownish yellow (10YR 6/6) very gravelly clay; common fine distinct strong brown (7.5YR 5/8) mottles; moderate medium angular blocky structure; firm; common distinct continuous yellowish brown (10YR 5/6) clay films on faces of peds; 45 percent limestone-cherty gravel; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 20 to 30 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—3 or 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 3 percent

Bw horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—3 to 6
Redoximorphic features—in shades of brown or gray in the lower part
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 3 percent

E horizon:
Hue—2.5Y or 10YR
Value—6 or 7
Chroma—1 to 3
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 3 percent

Btx horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—4 or 6
Redoximorphic features—in shades of brown, yellow, or gray
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

2Bt horizon:
Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 or 5
Chroma—4 to 6
Redoximorphic features—in shades of brown, red, yellow, gray
Texture of the fine-earth fraction—silty clay loam, clay loam, or clay
Content of rock fragments—0 to 50 percent

Sugargrove Series

Depth class: Moderately deep and deep
Drainage class: Well drained
Permeability: Moderate to moderately rapid
Physiographic area: Highland Rim
Landform: Ridge and hillside
Parent material: Residuum
Slope range: 5 to 20 percent
Associated soils: Hawthorne, Mountview, Tarklin
Taxonomic class: Fine-loamy, mixed, semiactive, thermic Typic Hapludults

Typical Pedon

Sugargrove gravelly silt loam, 5 to 12 percent

slopes; east of Woodbury; 1.5 miles north on Parchcorn Hollow Road from the intersection with Highway 281; 175 feet south of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 48 minutes 26 seconds N. and long. 85 degrees 58 minutes 48 seconds W.

A—0 to 2 inches; brown (10YR 4/3), rubbed, gravelly silt loam; moderate fine and medium granular structure; very friable; many very fine, fine, and medium and common coarse roots throughout; many very fine and fine interstitial pores; 20 percent subangular limestone-siltstone gravel; strongly acid; abrupt smooth boundary.

E—2 to 7 inches; pale brown (10YR 6/3), interior, gravelly silt loam; moderate medium granular structure; very friable; many very fine, fine, and medium and common coarse roots throughout; common very fine and fine tubular pores; 17 percent subangular limestone-siltstone gravel; strongly acid; clear smooth boundary.

BE—7 to 14 inches; light yellowish brown (10YR 6/4), interior, gravelly silt loam; moderate fine subangular blocky structure; friable; common fine, medium, and coarse roots throughout; common very fine and fine tubular pores; 17 percent subangular limestone-siltstone gravel; very strongly acid; clear smooth boundary.

Bt1—14 to 28 inches; yellowish brown (10YR 5/6), interior, gravelly silt loam; few fine distinct light yellowish brown (10YR 6/4) and few fine faint brownish yellow (10YR 6/6) mottles; moderate fine subangular blocky structure; friable; common fine and medium roots throughout; common very fine and fine tubular pores; very few faint clay films on faces of peds; 20 percent subangular limestone-siltstone gravel; very strongly acid; gradual smooth boundary.

Bt2—28 to 37 inches; strong brown (7.5YR 5/6), interior, gravelly silt loam; moderate fine subangular blocky structure; friable; few fine and medium roots throughout; common very fine and fine tubular pores; few distinct continuous brown (7.5YR 5/4) clay films on faces of peds; few prominent very pale brown (10YR 8/2) silt coats on rock fragments; 20 percent subangular limestone-siltstone gravel; very strongly acid; clear smooth boundary.

B/C—37 to 48 inches; 55 percent strong brown (7.5YR 5/6), interior, very channery silty clay loam (Bt part); moderate fine subangular blocky structure; friable; few fine and medium roots throughout; few very fine and fine tubular pores; few distinct brown (7.5YR 5/4) clay films on faces of peds; 45 percent brownish yellow (10YR 6/6), interior, very channery silt loam (C part); massive; friable; few prominent very pale brown (10YR 8/2) silt coats on rock fragments; 35 percent subangular limestone-siltstone channers; very strongly acid; clear smooth boundary.

Cr—48 to 54 inches; 60 percent brownish yellow (10YR 6/8), interior, and 40 percent strong brown (7.5YR 5/8), interior, weathered siltstone bedrock; horizontally bedded and fractured with a thickness of 1 to 2 inches and vertical fractures 3 to 10 inches apart; few prominent brown (7.5YR 5/4) clay films coating rock fragments.

Range in Characteristics

Depth to bedrock: 20 to 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 to 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—15 to 30 percent

Bt horizon (upper part):
Hue—10YR or 7.5YR
Value—5 or 6
Chroma—4 or 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—15 to 35 percent

Bt horizon (lower part):
Hue—5YR, 7.5YR, or 10YR
Value—4 to 6
Chroma—4 to 8
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay
Content of rock fragments—15 to 55 percent

C horizon: (where present)
Hue—10YR, 7.5YR, or 5YR
Value—4 to 6
Chroma—3 to 8
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay
Content of rock fragments—15 to 60 percent

Sykes Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Physiographic area: Nashville Basin
Landform: Stream terrace

Parent material: Alluvium over residuum
Slope range: 2 to 12 percent
Associated soils: Armour, Capshaw, Talbott
Taxonomic class: Fine-silty, mixed, active, thermic Typic Paleudalfs

Typical Pedon

Sykes silt loam, 5 to 12 percent slopes, eroded; 0.35 mile east on Parchcorn Hollow Road from Stones River Road to a barn; 625 feet northeast; 325 feet east of a fence; USGS Woodbury topographic quadrangle; lat. 35 degrees 49 minutes 28 seconds N. and long. 86 degrees 1 minute 28 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots throughout; common very fine interstitial pores; common fine rounded iron-manganese concretions throughout; strongly acid; abrupt smooth boundary.

Bt1—9 to 14 inches; strong brown (7.5YR 4/6) silt loam; moderate fine subangular blocky structure; friable; many very fine and fine roots throughout; common very fine and fine tubular pores; few faint clay films on faces of peds and in pores; common fine rounded iron-manganese concretions throughout; strongly acid; clear smooth boundary.

Bt2—14 to 26 inches; strong brown (7.5YR 4/6) silty clay loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; common distinct continuous brown (7.5YR 4/4) clay films on faces of peds and in pores; common fine rounded iron-manganese concretions throughout; moderately acid; clear smooth boundary.

2Bt3—26 to 45 inches; strong brown (7.5YR 5/6) clay; strong fine angular blocky structure; firm; common very fine and fine roots throughout; common very fine and fine tubular pores; common prominent continuous brown (7.5YR 5/4) clay films on faces of peds and in pores; few prominent black (10YR 2/1) manganese or iron-manganese stains on faces of peds; common fine rounded iron-manganese concretions throughout; moderately acid; clear smooth boundary.

2Bt4—45 to 55 inches; yellowish brown (10YR 5/6) clay; moderate medium subangular blocky structure; very firm; common very fine and fine tubular pores; many prominent continuous yellowish brown (10YR 5/4) clay films on faces of peds and in pores; few prominent black (10YR 2/1) manganese or iron-manganese stains on faces of peds and in pores; common fine rounded iron-manganese concretions throughout; moderately acid; clear smooth boundary.

2Bt5—55 to 63 inches; yellowish brown (10YR 5/6) clay; moderate fine subangular blocky structure; very firm; common very fine and fine tubular pores; common distinct discontinuous yellowish brown (10YR 5/4) clay films on faces of peds and in pores; common fine rounded iron-manganese concretions throughout; slightly acid; abrupt smooth boundary.

R—63 to 67 inches; limestone bedrock.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty
Reaction: Strongly acid to slightly acid

A horizon:
Hue—10YR or 7.5YR
Value—3 or 4
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 15 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 or 6
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—0 to 15 percent

2Bt horizon:
Hue—10YR or 7.5YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—silty clay loam or clay
Content of rock fragments—0 to 5 percent

Taft Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow to very slow within the fragipan
Physiographic area: Highland Rim
Landform: Divide, head of drainageways
Parent material: Loess
Slope range: 0 to 2 percent
Associated soils: Dickson, Guthrie, Mountview, Sango
Taxonomic class: Fine-silty, siliceous, semiactive, thermic Glossaquic Fragiudults

Typical Pedon

Taft silt loam; 9.9 miles south on Highway 53S from

Woodbury; 1.3 miles west on Smith Road; 1,000 feet south of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 41 minutes 15 seconds N. and long. 86 degrees 5 minutes 0 seconds W.

Ap—0 to 7 inches; brown (10YR 5/3), crushed, silt loam; weak fine granular structure; friable; common very fine and fine roots throughout; common fine interstitial pores; few medium rounded dark yellowish brown (10YR 4/6) iron-manganese concretions throughout; slightly acid; abrupt smooth boundary.

Bw—7 to 21 inches; light yellowish brown (2.5Y 6/4), interior, silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots throughout; common very fine and fine tubular pores; common fine and medium rounded dark yellowish brown (10YR 4/6) iron-manganese concretions throughout; common fine irregular yellowish brown (10YR 5/6) masses of iron accumulation throughout and common fine dendritic light brownish gray (10YR 6/2) iron depletions throughout; very strongly acid; clear smooth boundary.

E—21 to 24 inches; light brownish gray (10YR 6/2), interior, silt loam; weak fine subangular blocky structure; very friable; few very fine and fine roots throughout; common rounded and irregular, slightly hard and brittle bodies of light olive brown (2.5Y 5/6) silt loam occupy 12 percent of the horizon; very strongly acid; abrupt irregular boundary.

Btx—24 to 56 inches; light yellowish brown (2.5Y 6/3), interior, silt loam; strong very coarse prismatic structure parting to strong very coarse platy; firm; many medium discontinuous, common fine discontinuous, and few very fine and fine discontinuous tubular pores; few distinct light brownish gray (2.5Y 6/2) clay films on faces of prisms and in pores; many coarse prominent light gray (10YR 7/1) iron depletions and common coarse prominent brownish yellow (10YR 6/6) iron accumulations along prism faces and in secondary peds; very strongly acid; clear wavy boundary.

2Bt—56 to 79 inches; brownish yellow (10YR 6/8), interior, silty clay loam; strong coarse subangular blocky structure; firm; few very fine and fine tubular pores; few faint clay films on faces of peds; many medium platelike gray (N 6/0) masses of iron depletion throughout and many medium platelike red (2.5YR 4/8) iron accumulations throughout; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 20 to 36 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—2.5Y or 10YR
Value—4 to 6
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam

E horizon:
Hue—2.5Y or 10YR
Value—5 to 7
Chroma—1 to 4
Redoximorphic features—in shades of brown, yellow, or gray
Texture of the fine-earth fraction—silt loam

B horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—3 or 4
Redoximorphic features—in shades of brown, yellow, or gray
Texture of the fine-earth fraction—silt loam

Btx horizon:
Hue—2.5Y or 10YR
Value—5 or 6
Chroma—3 or 4
Redoximorphic features—in shades of brown, yellow, or gray
Texture of the fine-earth fraction—silt loam

2Bt horizon:
Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 to 6
Chroma—4 to 8
Redoximorphic features—in shades of brown, red, yellow, or gray
Texture of the fine-earth fraction—silt loam, silty clay loam, or clay
Content of rock fragments—0 to 5 percent

Talbott Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Slow to very slow
Physiographic area: Nashville Basin-Highland Rim
Landform: Divide, hill
Parent material: Residuum

Slope range: 2 to 70 percent
Associated soils: Barfield, Bradyville, Inman, Capshaw
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludalfs

Typical Pedon

Talbott silty clay loam, 5 to 12 percent slopes, eroded (fig. 15); 5.6 miles south on Highway 64 from the intersection with Highway 70S west of Woodbury; 0.2 mile west on a farm lane; 150 feet north of lane; USGS Beechgrove topographic quadrangle; lat. 35 degrees 44 minutes 11 seconds N. and long. 86 degrees 10 minutes 30 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4), crushed, silty clay loam; moderate medium granular structure; friable; many very fine and fine roots throughout; common very fine and fine interstitial and tubular pores; 5 percent angular limestone-cherty gravel; moderately acid; abrupt smooth boundary.

Bt1—6 to 19 inches; yellowish red (5YR 5/6), interior, clay; common fine distinct strong brown (7.5YR 5/8) mottles throughout; moderate fine subangular blocky structure; firm; common very fine and fine roots throughout; common distinct continuous reddish brown (5YR 5/4) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—19 to 23 inches; strong brown (7.5YR 5/8), interior, clay; few fine distinct yellowish red (5YR 5/6) mottles; moderate fine subangular blocky structure; firm; few very fine roots throughout; common distinct continuous strong brown (7.5YR 5/6) clay films on faces of peds; moderately acid; clear wavy boundary.

BC—23 to 30 inches; yellowish brown (10YR 5/6), interior, clay; few fine prominent yellowish red (5YR 5/6) and few fine distinct light olive brown (2.5Y 5/4) platelike mottles between peds; weak coarse subangular blocky structure; very firm, sticky, plastic; few very fine roots between peds; distinct pressure faces; common fine and medium rounded masses of iron-manganese accumulation throughout; neutral.

R—30 to 34 inches; unweathered limestone rock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches
Kind of rock fragments: Limestone-cherty and limestone
Reaction: Strongly acid to mildly alkaline

A horizon:
Hue—10YR, 7.5YR, or 5YR
Value—4 or 5
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam or silty clay loam; clay in severely eroded areas
Content of rock fragments—0 to 10 percent

Bt horizon:
Hue—10YR, 7.5YR, 5YR, or 2.5YR
Value—4 or 5
Chroma—4 to 8
Texture of the fine-earth fraction—clay; rarely silty clay loam in the upper part
Content of rock fragments—0 to 10 percent

Tarklin Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow to very slow within the fragipan
Physiographic area: Highland Rim
Landform: Stream terrace
Parent material: Loess and alluvium
Slope range: 2 to 12 percent
Associated soils: Dickson, Lobelville, Sugargrove
Taxonomic class: Fine-loamy, siliceous, semiactive, mesic Typic Fragiudults

Typical Pedon

Tarklin gravelly silt loam, 5 to 12 percent slopes, eroded; 1.2 miles south on Highway 70S to Leoni Church from the intersection with Highway 281; 200 feet west of Porter Branch at Leoni; USGS Short Mountain topographic quadrangle; lat. 35 degrees 45 minutes 14 seconds N. and long. 85 degrees 59 minutes 4 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4), rubbed, gravelly silt loam; weak fine granular structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; 17 percent subangular limestone-cherty gravel; moderately acid; abrupt smooth boundary.

Bt—6 to 20 inches; yellowish brown (10YR 5/4), interior, gravelly silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; few faint clay films on faces of peds; 20 percent subangular limestone-cherty gravel; strongly acid; abrupt smooth boundary.

Btx1—20 to 26 inches; pale brown (10YR 6/3), interior, gravelly silt loam; weak very coarse platy structure parting to strong fine subangular blocky; extremely firm; common very fine and fine discontinuous tubular pores; common distinct brown (10YR 5/3)

clay films on faces of prisms; common distinct light brownish gray (10YR 6/2) silt coats on rock fragments and between prism faces; common fine faint light brownish gray (10YR 6/2) iron depletions and common distinct fine yellowish brown (10YR 5/6) masses of iron accumulation; 30 percent limestone-cherty gravel; brittle in 95 percent of the mass; very strongly acid; clear smooth boundary.

Btx2—26 to 44 inches; yellowish brown (10YR 5/4), interior, gravelly silt loam; weak very coarse platy structure parting to moderate fine subangular blocky; extremely firm; common very fine, fine, and medium discontinuous tubular pores; common distinct brown (10YR 5/3) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; 5 percent limestone-cherty cobbles and 25 percent limestone-cherty gravel; brittle in 95 percent of the mass; very strongly acid; clear smooth boundary.

Btx3—44 to 54 inches; yellowish brown (10YR 5/4), interior, gravelly silt loam; weak very coarse platy structure parting to moderate fine subangular blocky; extremely firm; very few prominent black manganese stains on rock fragments; common fine distinct light brownish gray (10YR 6/2) iron depletions and common fine prominent reddish yellow (7.5YR 6/6) masses of iron accumulation around stones; 5 percent limestone-cherty cobbles and 30 percent limestone-cherty gravel; brittle in 95 percent of the mass; very strongly acid; clear wavy boundary.

C—54 to 70 inches; pale brown (10YR 6/3), interior, very gravelly loam; very firm; massive; many medium prominent reddish yellow (7.5YR 6/6) and few fine red (2.5YR 5/8) masses of iron accumulation and common fine distinct gray (10YR 5/1) and light brownish gray (10YR 6/2) iron depletions; 45 percent limestone-cherty gravel and 5 percent limestone-cherty cobbles; very strongly acid; abrupt smooth boundary.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to fragipan: 18 to 30 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Very strongly acid to strongly acid

A horizon:
Hue—10YR
Value—4 to 6
Chroma—2 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—15 to 35 percent

Bt horizon:
Hue—10YR
Value—4 to 6
Chroma—4 to 6
Redoximorphic features—in shades of brown or gray in the lower part
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—15 to 35 percent

Btx horizon:
Hue—10YR
Value—4 to 6
Chroma—3 to 6
Redoximorphic features—in shades of brown or gray
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—15 to 35 percent

C horizon:
Hue—10YR or 7.5YR
Value—4 to 6
Chroma—3 to 6
Redoximorphic features—in shades of red, brown, or gray
Texture of the fine-earth fraction—silt loam or silty clay loam
Content of rock fragments—25 to 75 percent

The Tarklin soils in this survey are taxadjuncts because the temperature regime is warmer than that defined for the series. This difference, however, does not significantly affect the use, management, or interpretations of the soils. In this survey the Tarklin soils are fine-loamy, siliceous, mesic Typic Fragiudults.

Trace Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate to rapid
Physiographic area: Highland Rim
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 3 percent
Associated soils: Lobelville, Etowah, Tarklin
Taxonomic class: Fine-silty, mixed, active, thermic Ultic Hapludalfs

Typical Pedon

Trace silt loam, rarely flooded; south of Woodbury

on Highway 53S; east 3.6 miles on Red Hill Road; south 2.8 miles on Ivy Bluff Road; 100 feet east of road; USGS Hollow Springs topographic quadrangle; lat. 35 degrees 40 minutes 47 seconds N. and long. 86 degrees 0 minutes 25 seconds W.

Ap—0 to 9 inches; brown (10YR 4/3), crushed, silt loam; moderate medium granular structure; friable; common very fine and fine roots throughout; common very fine and fine interstitial pores; 8 percent subrounded limestone-siltstone gravel; slightly acid; abrupt smooth boundary.

Bt—9 to 32 inches; brown (7.5YR 4/4), interior, silt loam; moderate fine subangular blocky structure; friable; common very fine and fine roots throughout; many very fine and fine tubular pores; few faint clay films on faces of peds and in pores; 10 percent subrounded limestone-siltstone gravel; moderately acid; clear smooth boundary.

2C1—32 to 56 inches; yellowish brown (10YR 5/4), crushed, very gravelly loam; single grain; 60 percent subrounded limestone-siltstone gravel; strongly acid; gradual smooth boundary.

2C2—56 to 65 inches; pale brown (10YR 5/3), interior, extremely gravelly sandy loam; single grain; loose; 70 percent subrounded limestone-siltstone gravel; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and siltstone
Reaction: Strongly acid to moderately acid

A horizon:
Hue—10YR
Value—4
Chroma—3 to 4
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

Bt horizon:
Hue—10YR or 7.5YR
Value—4 to 5
Chroma—4 to 6
Texture of the fine-earth fraction—silt loam
Content of rock fragments—0 to 10 percent

2C horizon:
Hue—10YR
Value—5
Chroma—3 to 6
Texture of the fine-earth fraction—sandy loam or loam
Content of rock fragments—30 to 90 percent

Waynesboro Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Physiographic area: Highland Rim
Landform: Hill
Parent material: Alluvium
Slope range: 5 to 20 percent
Associated soils: Bewleyville, Etowah
Taxonomic class: Fine, kaolinitic, thermic Typic Paleudults

Typical Pedon

Waynesboro clay loam, 5 to 12 percent slopes, eroded; 1.7 miles east on Half Acre Road from the intersection with Highway 146; 2,050 feet south of road; USGS Short Mountain topographic quadrangle; lat. 35 degrees 51 minutes 12 seconds N. and long. 85 degrees 54 minutes 3 seconds W.

Ap—0 to 6 inches; brown (7.5YR 4/4), crushed, clay loam; weak fine granular structure; friable; common very fine roots throughout; common very fine and fine tubular pores; 2 percent limestone-cherty gravel; moderately acid; abrupt smooth boundary.

Bt1—6 to 12 inches; red (2.5YR 4/6), interior, clay loam; moderate fine subangular blocky structure; friable; common very fine roots throughout; common very fine and fine tubular pores; few distinct patchy reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; few fine rounded iron-manganese concretions throughout; 2 percent subangular limestone-cherty gravel; strongly acid; gradual smooth boundary.

Bt2—12 to 42 inches; dark red (2.5YR 3/6), interior, clay; strong fine angular blocky structure; friable; common very fine and fine roots throughout; common very fine and fine tubular pores; many prominent continuous dark reddish brown (2.5YR 3/4) clay films on faces of peds and in pores; few fine rounded iron-manganese concretions throughout; 4 percent limestone-cherty gravel; strongly acid; clear smooth boundary.

Bt3—42 to 78 inches; red (2.5YR 4/6), interior, clay; common fine prominent strong brown (7.5YR 5/8) mottles; strong fine angular blocky structure; firm; common very fine and fine tubular pores; many prominent continuous reddish brown (2.5YR 4/4) clay films on faces of peds and in pores; 13 percent subrounded limestone-cherty gravel and 2 percent subangular limestone-cherty cobbles; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Kind of rock fragments: Limestone-cherty and quartzite pebbles
Reaction: Very strongly acid to strongly acid

A horizon:
- Hue—7.5YR or 5YR
- Value—3 or 4
- Chroma—3 or 4
- Texture of the fine-earth fraction—loam or clay loam
- Content of rock fragments—0 to 15 percent

Bt horizon:
- Hue—5YR or 2.5YR
- Value—3 or 4
- Chroma—6 or 8
- Texture of the fine-earth fraction—clay loam or clay
- Content of rock fragments—0 to 15 percent

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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.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

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.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

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 strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

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

Bottom land. The normal flood plain of a stream, subject to flooding.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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 material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

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.

Cobble (or cobblestone). A rounded or partly

rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that is 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Colluvium. Soil material or 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 or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

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 wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

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.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide 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.

Flaggy soil material. Material that is, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Footslope. 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.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 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. 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.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

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.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material.

Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

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, as contrasted 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.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

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 wind.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

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.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

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 or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities 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.

Plateau. An extensive upland mass with relatively flat

summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

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 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:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

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.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. 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. Seepage 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. 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 (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

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.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

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.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for complex slopes are as follows:

Nearly level	0 to 3 percent
Undulating	1 to 8 percent
Rolling	4 to 16 percent
Hilly	10 to 30 percent
Steep	20 to 60 percent
Very steep	45 percent and higher

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.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief 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 material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with

rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

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. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (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). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The outermost inclined surface at the base of a hill; part of a footslope.

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. 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 by heavily loaded streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. 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.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-90 at Livingston, Tennessee)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher 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---	45.5	25.3	35.4	70	-9	84	4.17	2.01	6.04	8	4.7
February--	50.3	27.6	38.9	74	-3	117	4.00	2.03	5.71	7	3.9
March-----	61.2	36.8	49.0	82	11	311	5.03	2.76	7.03	9	0.6
April-----	70.9	44.5	57.7	87	23	531	4.32	2.40	6.30	7	0.2
May-------	77.8	52.2	65.0	89	32	772	5.07	3.05	6.88	7	0.0
June------	84.8	60.0	72.4	95	42	968	3.77	2.28	5.11	6	0.0
July------	87.4	63.9	75.7	98	49	1105	5.32	2.86	7.49	7	0.0
August----	86.3	62.3	74.3	96	48	1061	4.20	2.44	5.76	6	0.0
September-	80.7	56.2	68.4	93	36	850	3.77	1.89	5.41	5	0.0
October---	70.7	43.9	57.3	85	23	534	3.09	1.53	4.65	5	0.0
November--	60.0	36.7	48.4	79	13	279	4.40	2.73	5.90	7	0.9
December--	50.0	29.6	39.8	72	0	134	5.14	2.43	7.48	7	1.5
Yearly:											
Average-	68.8	44.9	56.9	---	---	---	---	---	---	---	---
Extreme-	108	-25	---	99	-12	---	---	---	---	---	---
Total---	---	---	---	---	---	6745	52.28	37.36	58.44	81	11.7

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Livingston, 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. 11	Apr. 24	May 10
2 years in 10 later than--	Apr. 6	Apr. 18	May 5
5 years in 10 later than--	Mar. 28	Apr. 7	Apr. 24
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 22	Oct. 6	Sept. 27
2 years in 10 earlier than--	Oct. 28	Oct. 12	Oct. 3
5 years in 10 earlier than--	Nov. 9	Oct. 24	Oct. 13

Table 3.--Growing Season

(Recorded in the period 1961-90 at Livingston, 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	203	174	150
8 years in 10	211	183	157
5 years in 10	226	199	171
2 years in 10	240	215	185
1 year in 10	248	223	192

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
ArA	Armour silt loam, 0 to 2 percent slopes, rarely flooded	176	0.1
ArB	Armour silt loam, 2 to 5 percent slopes	584	0.3
At	Arrington silt loam, occasionally flooded	1,485	0.9
BaC	Barfield-Rock outcrop-Talbott complex, 2 to 12 percent slopes	1,681	1.0
BeC2	Bewleyville silt loam, 5 to 12 percent slopes, eroded	1,008	0.6
BeD2	Bewleyville silt loam, 12 to 20 percent slopes, eroded	144	*
BrB	Bradyville silt loam, 2 to 5 percent slopes	344	0.2
BrC2	Bradyville silt loam, 5 to 12 percent slopes, eroded	323	0.2
CaB	Capshaw silt loam, 2 to 6 percent slopes	1,743	1.0
ChC2	Christian silt loam, 5 to 12 percent slopes, eroded	728	0.4
ChC3	Christian silty clay loam, 5 to 12 percent slopes, severely eroded	187	0.1
ChD2	Christian silt loam, 12 to 20 percent slopes, eroded	314	0.2
CrC2	Christian gravelly silt loam, 5 to 12 percent slopes, eroded	200	0.1
CrD2	Christian gravelly silt loam, 12 to 20 percent slopes, eroded	256	0.2
DeC	Dellrose gravelly silt loam, 5 to 12 percent slopes	656	0.4
DeD2	Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded	392	0.2
DeE2	Dellrose gravelly silt loam, 20 to 30 percent slopes, eroded	2,373	1.4
DeF2	Dellrose gravelly silt loam, 30 to 50 percent slopes, eroded	8,653	5.1
DhD2	Dellrose gravelly silt loam, shallow over clay, 12 to 20 percent slopes, eroded	326	0.2
DhE2	Dellrose gravelly silt loam, shallow over clay, 20 to 40 percent slopes, eroded	3,660	2.2
DkB	Dickson silt loam, 1 to 4 percent slopes	19,741	11.6
DkC2	Dickson silt loam, 4 to 8 percent slopes, eroded	615	0.4
Ea	Eagleville silty clay loam, occasionally flooded	468	0.3
Eg	Egam silty clay loam, occasionally flooded	1,303	0.8
EtC	Etowah gravelly silt loam, 5 to 12 percent slopes	534	0.3
EtD2	Etowah gravelly silt loam, 12 to 20 percent slopes, eroded	326	0.2
EtE2	Etowah gravelly silt loam, 20 to 35 percent slopes, eroded	1,070	0.6
GpE	Gilpin stony loam, 20 to 40 percent slopes	73	*
GrE2	Gladdice-Rock outcrop complex, 15 to 35 percent slopes, eroded	9,131	5.4
GrF2	Gladdice-Rock outcrop complex, 35 to 60 percent slopes, eroded	8,091	4.8
GvC	Gladeville-Rock outcrop complex, 2 to 20 percent slopes	1,945	1.1
Gw	Guthrie silt loam, ponded	1,875	1.1
HaC2	Hampshire silt loam, 5 to 12 percent slopes, eroded	152	*
HaD2	Hampshire silt loam, 12 to 20 percent slopes, eroded	72	*
HbD	Hawthorne gravelly silt loam, 5 to 20 percent slopes	1,587	0.9
HbF	Hawthorne gravelly silt loam, 30 to 60 percent slopes	26,095	15.3
InC2	Inman flaggy silty clay loam, 5 to 12 percent slopes, eroded	567	0.3
InD2	Inman flaggy silty clay loam, 12 to 20 percent slopes, eroded	1,225	0.7
InE2	Inman flaggy silty clay loam, 20 to 35 percent slopes, eroded	655	0.4
InE3	Inman flaggy clay, 12 to 35 percent slopes, severely eroded	6,580	3.9
JNF	Jefferson and Nella stony loams, 20 to 60 percent slopes	432	0.3
Le	Lee silt loam, ponded	741	0.4
Ln	Lindell silt loam, occasionally flooded	622	0.4
Lo	Lobelville silt loam, occasionally flooded	1,512	0.9
Lv	Lobelville gravelly silt loam, frequently flooded	1,064	0.6
LwC	Lonewood silt loam, 4 to 12 percent slopes	142	*
MmC2	Mimosa silty clay loam, 3 to 12 percent slopes, eroded	561	0.3
MmD2	Mimosa silty clay loam, 12 to 20 percent slopes, eroded	744	0.4
MrC	Mimosa-Rock outcrop complex, 3 to 15 percent slopes	195	0.1
MsB	Monongahela silt loam, 1 to 5 percent slopes	393	0.2
MtB	Mountview silt loam, 2 to 5 percent slopes	7,932	4.7
MtC2	Mountview silt loam, 5 to 12 percent slopes, eroded	3,679	2.2
Oc	Ocana gravelly silt loam, rarely flooded	1,160	0.7
On	Ocana gravelly silt loam, occasionally flooded	618	0.4
Pt	Pits, quarry	113	*
RoC	Rock outcrop-Barfield-Ashwood complex, 5 to 15 percent slopes	2,220	1.3
RoE2	Rock outcrop-Barfield-Ashwood complex, 15 to 35 percent slopes, eroded	13,242	7.8
RoF	Rock outcrop-Barfield-Ashwood complex, 35 to 60 percent slopes	2,014	1.2
Sa	Sango silt loam	3,182	1.9
SgC	Sugargrove gravelly silt loam, 5 to 12 percent slopes	4,084	2.4

Table 4.--Acreage and Proportionate Extent of the Soils--continued

Map symbol	Soil name	Acres	Percent
SgD	Sugargrove gravelly silt loam, 12 to 20 percent slopes	2,070	1.2
SkB	Sykes silt loam, 2 to 5 percent slopes	895	0.5
SkC2	Sykes silt loam, 5 to 12 percent slopes, eroded	925	0.5
Ta	Taft silt loam	2,992	1.8
TbB2	Talbott silt loam, 2 to 5 percent slopes, eroded	1,450	0.9
TbC2	Talbott silty clay loam, 5 to 12 percent slopes, eroded	2,691	1.6
TcC2	Talbott silt loam, 5 to 20 percent slopes, eroded, rocky	1,878	1.1
TcC3	Talbott clay, 5 to 20 percent slopes, severely eroded, rocky	2,351	1.4
ToD	Talbott-Rock outcrop complex, 8 to 25 percent slopes	124	*
ToF	Talbott-Rock outcrop complex, 35 to 70 percent slopes	1,074	0.6
TrB	Tarklin gravelly silt loam, 2 to 5 percent slopes	427	0.3
TrC2	Tarklin gravelly silt loam, 5 to 12 percent slopes, eroded	636	0.4
Tt	Trace silt loam, rarely flooded	182	0.1
W	Water	---	*
WaC2	Waynesboro clay loam, 5 to 12 percent slopes, eroded	139	*
WaD2	Waynesboro clay loam, 12 to 20 percent slopes, eroded	178	0.1
	Total	170,000	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or that the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue-ladino	Tobacco	Wheat
		Bu	Bu	AUM*	Lbs	Bu
ArA:		130.00	50.00	9.00	2,900.00	55.00
Armour	1					
ArB:		125.00	43.00	8.00	2,900.00	53.00
Armour	2e					
At:		130.00	45.00	8.50	2,700.00	55.00
Arrington	2w					
BaC:		---	---	3.50	---	---
Barfield	6s					
Rock outcrop	8					
Talbott	6s					
BeC2:		95.00	34.00	6.50	2,350.00	51.00
Bewleyville	3e					
BeD2:		80.00	---	6.00	2,100.00	---
Bewleyville	4e					
BrB:		85.00	30.00	7.00	1,900.00	52.00
Bradyville	2e					
BrC2:		70.00	---	6.00	1,800.00	44.00
Bradyville	3e					
CaB:		85.00	25.00	6.50	---	40.00
Capshaw	2e					
ChC2:		80.00	25.00	6.50	1,800.00	30.00
Christian	3e					
ChC3:		---	---	5.50	---	---
Christian	4e					
ChD2:		---	---	5.50	---	---
Christian	6e					
CrC2:		80.00	25.00	6.00	1,800.00	30.00
Christian	3e					
CrD2:		---	---	5.00	---	---
Christian	6e					
DeC:		---	---	7.00	2,200.00	---
Dellrose	3e					
DeD2:		---	---	5.50	---	---
Dellrose	4e					
DeE2:		---	---	4.50	---	---
Dellrose	6e					
DeF2:		---	---	4.00	---	---
Dellrose	7e					

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue-ladino	Tobacco	Wheat
		Bu	Bu	AUM*	Lbs	Bu
DhD2:		---	---	5.50	---	---
Dellrose	6e					
DhE2:		---	---	4.00	---	---
Dellrose	7e					
DkB:		100.00	35.00	6.50	1,900.00	50.00
Dickson	2e					
DkC2:		75.00	30.00	5.50	1,750.00	45.00
Dickson	3e					
Ea:		---	---	7.00	---	---
Eagleville	3w					
Eg:		110.00	40.00	8.00	---	---
Egam	2w					
EtC:		95.00	---	6.50	2,350.00	45.00
Etowah	3e					
EtD2:		80.00	---	6.00	---	---
Etowah	4e					
EtE2:		---	---	5.00	---	---
Etowah	6e					
GpE:		---	---	---	---	---
Gilpin	7s					
GrE2:		---	---	4.00	---	---
Gladdice	7s					
Rock outcrop	8					
GrF2:		---	---	3.00	---	---
Gladdice	7s					
Rock outcrop	8					
GvC:		---	---	---	---	---
Gladeville	7s					
Rock outcrop	8					
Gw:		---	---	---	---	---
Guthrie	5w					
HaC2:		---	---	6.00	---	---
Hampshire	3e					
HaD2:		---	---	5.50	---	---
Hampshire	4e					
HbD:		---	---	3.50	---	---
Hawthorne	6s					
HbF:		---	---	---	---	---
Hawthorne	7s					
InC2:		---	---	4.50	---	---
Inman	4e					
InD2:		---	---	4.00	---	---
Inman	6e					

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue-ladino	Tobacco	Wheat
		Bu	Bu	AUM*	Lbs	Bu
InE2:		---	---	3.00	---	---
Inman	7e					
InE3:		---	---	2.50	---	---
Inman	7e					
JNF:		---	---	---	---	---
Jefferson	7s					
Nella	7s					
Le:		---	---	---	---	---
Lee	5w					
Ln:		115.00	40.00	8.00	2,000.00	50.00
Lindell	2w					
Lo:		---	---	7.50	---	---
Lobelville	2w					
Lv:		---	---	6.00	---	---
Lobelville	3w					
LwC:		---	---	6.50	2,200.00	---
Lonewood	3e					
MmC2:		---	---	4.50	---	---
Mimosa	4e					
MmD2:		---	---	4.00	---	---
Mimosa	6e					
MrC:		---	---	4.00	---	---
Mimosa	6s					
Rock outcrop	8					
MsB:		100.00	35.00	6.50	1,900.00	40.00
Monongahela	2e					
MtB:		100.00	40.00	7.00	2,400.00	55.00
Mountview	2e					
MtC2:		90.00	30.00	6.00	2,250.00	45.00
Mountview	3e					
Oc:		90.00	30.00	7.00	1,900.00	45.00
Ocana	2s					
On:		85.00	30.00	7.00	1,800.00	40.00
Ocana	2w					
Pt:		---	---	---	---	---
Pits, quarry	---					
RoC:		---	---	3.50	---	---
Rock outcrop	8					
Barfield	6s					
Ashwood	6s					
RoE2:		---	---	3.00	---	---
Rock outcrop	8					
Barfield	7s					
Ashwood	7s					

* See footnote at end of table.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--continued

Map symbol and soil name	Land capability	Corn	Soybeans	Tall fescue-ladino	Tobacco	Wheat
		Bu	Bu	AUM*	Lbs	Bu
RoF:		---	---	---	---	---
Rock outcrop	8					
Barfield	7s					
Ashwood	7s					
Sa:		100.00	35.00	6.50	1,900.00	50.00
Sango	2w					
SgC:		80.00	25.00	5.50	2,200.00	35.00
Sugargrove	3e					
SgD:		---	---	5.00	1,800.00	---
Sugargrove	4e					
SkB:		125.00	43.00	8.00	3,000.00	55.00
Sykes	2e					
SkC2:		100.00	38.00	6.50	2,500.00	45.00
Sykes	3e					
Ta:		80.00	35.00	6.50	---	40.00
Taft	3w					
Guthrie	---					
TbB2:		65.00	22.00	5.00	---	40.00
Talbott	3e					
TbC2:		---	---	4.50	---	---
Talbott	4e					
TcC2:		---	---	4.00	---	---
Talbott	6e					
TcC3:		---	---	3.00	---	---
Talbott	6e					
ToD:		---	---	4.00	---	---
Talbott	6e					
Rock outcrop	8					
ToF:		---	---	---	---	---
Talbott	7e					
Rock outcrop	8					
TrB:		90.00	25.00	5.50	---	40.00
Tarklin	2e					
TrC2:		80.00	20.00	5.00	---	35.00
Tarklin	3e					
Tt:		120.00	45.00	8.00	2,800.00	45.00
Trace	2e					
W:		---	---	---	---	---
Water	---					
WaC2:		90.00	30.00	---	2,200.00	50.00
Waynesboro	3e					
WaD2:		80.00	---	---	---	45.00
Waynesboro	4e					

* Animal unit month: The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Table 6.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland)

Map symbol	Soil name
ArA	Armour silt loam, 0 to 2 percent slopes, rarely flooded
ArB	Armour silt loam, 2 to 5 percent slopes
At	Arrington silt loam, occasionally flooded
BrB	Bradyville silt loam, 2 to 5 percent slopes
CaB	Capshaw silt loam, 2 to 6 percent slopes
DkB	Dickson silt loam, 1 to 4 percent slopes
Eg	Egam silty clay loam, occasionally flooded
Ln	Lindell silt loam, occasionally flooded
Lo	Lobelville silt loam, occasionally flooded
MsB	Monongahela silt loam, 1 to 5 percent slopes
MtB	Mountview silt loam, 2 to 5 percent slopes
Oc	Ocana gravelly silt loam, rarely flooded
On	Ocana gravelly silt loam, occasionally flooded
Sa	Sango silt loam
SkB	Sykes silt loam, 2 to 5 percent slopes
TrB	Tarklin gravelly silt loam, 2 to 5 percent slopes
Tt	Trace silt loam, rarely flooded

Table 7.--Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of any entry indicates that information was not available)

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
ArA:									
Armour	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	100	107	yellow-poplar,
						shortleaf pine	90	144	shortleaf pine,
						black walnut	85	75	black walnut,
						white oak	80	62	white oak,
						cherrybark oak	80	62	cherrybark oak
ArB:									
Armour	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	100	107	yellow-poplar,
						shortleaf pine	90	144	shortleaf pine,
						black walnut	85	75	black walnut,
						white oak	80	62	white oak,
						cherrybark oak	80	62	cherrybark oak
At:									
Arrington	Slight	Slight	Slight	Slight	Severe	yellow-poplar	100	107	yellow-poplar,
						black walnut	85	75	black walnut,
						sweetgum	85	70	sweetgum, white
						white oak	80	62	oak, cherrybark
						cherrybark oak	80	62	oak, shortleaf
						shortleaf pine	90	144	pine
BaC:									
Barfield	Slight	Slight	Moderate	Severe	Moderate	eastern redcedar	40	43	eastern redcedar,
						Virginia pine	55	41	Virginia pine
Rock outcrop	---	---	---	---	---	---	---	---	---
Talbott	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	40	43	eastern redcedar,
						Virginia pine	55	41	Virginia pine
BeC2:									
Bewleyville	Moderate	Slight	Slight	Slight	Moderate	shortleaf pine	65	113	shortleaf pine,
						yellow-poplar	75	90	yellow-poplar,
						southern red oak	70	57	southern red oak,
						white oak	70	52	white oak
BeD2:									
Bewleyville	Severe	Moderate	Slight	Slight	Moderate	shortleaf pine	65	113	shortleaf pine,
						yellow-poplar	75	90	yellow-poplar,
						southern red oak	70	57	southern red oak,
						white oak	70	52	white oak

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
BrB:									
Bradyville	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	90	90	yellow-poplar,
						white oak	70	57	white oak,
						southern red oak	70	57	shortleaf pine,
						eastern redcedar	40	43	eastern redcedar
BrC2:									
Bradyville	Moderate	Slight	Slight	Slight	Moderate	yellow-poplar	90	90	yellow-poplar,
						white oak	70	57	white oak,
						southern red oak	70	57	shortleaf pine,
						eastern redcedar	40	43	eastern redcedar
CaB:									
Capshaw	Slight	Slight	Slight	Slight	---	sweetgum	95	81	sweetgum, yellow-
						yellow-poplar	90	86	poplar, green ash,
						green ash	90	86	swamp white oak,
						swamp white oak	70	57	cherrybark oak
						cherrybark oak	70	57	
ChC2:									
Christian	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	70	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
ChC3:									
Christian	Slight	Moderate	Moderate	Slight	Slight	shortleaf pine	70	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
ChD2:									
Christian	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	70	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
CrC2:									
Christian	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	70	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
CrD2:									
Christian	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	70	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
DeC:									
Dellrose	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DeD2:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DeE2:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DeF2:									
Dellrose	Severe	Severe	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DhD2:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DhE2:									
Dellrose	Moderate	Moderate	Slight	Slight	Moderate	yellow-poplar	100	100	yellow-poplar,
						shortleaf pine	80	114	shortleaf pine,
						southern red oak	75	57	southern red oak,
						black walnut	75	75	black walnut
DkB:									
Dickson	Slight	Slight	Slight	Moderate	Moderate	yellow-poplar	90	90	yellow-poplar,
						southern red oak	75	57	southern red oak,
						white oak	70	57	white oak,
						shortleaf pine	70	125	shortleaf pine

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
DkC2:									
Dickson	Slight	Slight	Slight	Moderate	Moderate	yellow-poplar	90	90	yellow-poplar,
						southern red oak	75	57	southern red oak,
						white oak	70	57	white oak,
						shortleaf pine	70	125	shortleaf pine
Ea:									
Eagleville	Slight	Moderate	Moderate	Slight	Severe	sweetgum	90	100	sweetgum, swamp
						swamp white oak	90	86	white oak, eastern
						eastern cottonwood	95	107	cottonwood, green
						green ash	90	86	ash
Eg:									
Egam	Slight	Slight	Moderate	Slight	Severe	cherrybark oak	85	57	cherrybark oak,
						swamp white oak	85	57	swamp white oak,
						sweetgum	90	70	sweetgum, yellow-
						yellow-poplar	95	98	poplar
EtC:									
Etowah	Slight	Slight	Slight	Slight	Moderate	cherrybark oak	80	62	cherrybark oak,
						shortleaf pine	80	129	shortleaf pine,
						southern red oak	80	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
EtD2:									
Etowah	Moderate	Moderate	Slight	Slight	Moderate	cherrybark oak	80	62	cherrybark oak,
						shortleaf pine	80	129	shortleaf pine,
						southern red oak	80	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
EtE2:									
Etowah	Moderate	Moderate	Slight	Slight	Moderate	cherrybark oak	80	62	cherrybark oak,
						shortleaf pine	80	129	shortleaf pine,
						southern red oak	80	57	southern red oak,
						yellow-poplar	90	86	yellow-poplar
GpE:									
Gilpin	Moderate	Moderate	Moderate	Slight	Moderate	shortleaf pine	60	79	shortleaf pine,
						Virginia pine	55	55	Virginia pine,
						chestnut oak	50	41	chestnut oak,
						eastern redcedar	45	45	eastern redcedar

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
GrE2:									
Gladdice	Moderate	Moderate	Slight	Slight	Moderate	Virginia pine	80	114	Virginia pine,
						chestnut oak	65	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
GrF2:									
Gladdice	Severe	Severe	Slight	Slight	Moderate	Virginia pine	80	114	Virginia pine,
						chestnut oak	65	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
GvC:									
Gladeville	Slight	Moderate	Severe	Severe	Slight	eastern redcedar	35	29	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
Gw:									
Guthrie	Slight	Severe	Severe	Moderate	Severe	sweetgum	90	98	sweetgum, swamp
						swamp white oak	80	43	white oak, willow
						willow oak	85	43	oak, American
						American sycamore	76	43	sycamore
HaC2:									
Hampshire	Moderate	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						eastern redcedar	50	57	eastern redcedar
HaD2:									
Hampshire	Severe	Moderate	Moderate	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						eastern redcedar	50	57	eastern redcedar
HbD:									
Hawthorne	Slight	Slight	Moderate	Slight	Moderate	Virginia pine	60	75	Virginia pine,
						eastern redcedar	40	35	eastern redcedar
HbF:									
Hawthorne	Moderate	Severe	Moderate	Slight	Moderate	Virginia pine	60	75	Virginia pine,
						eastern redcedar	40	35	eastern redcedar

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
InC2:									
Inman	Slight	Moderate	Moderate	Slight	Moderate	eastern redcedar	50	57	eastern redcedar,
						shortleaf pine	70	113	shortleaf pine,
						chestnut oak	70	57	chestnut oak
InD2:									
Inman	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	50	57	eastern redcedar,
						shortleaf pine	70	113	shortleaf pine,
						chestnut oak	70	57	chestnut oak
InE2:									
Inman	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	50	57	eastern redcedar,
						shortleaf pine	70	113	shortleaf pine,
						chestnut oak	70	57	chestnut oak
InE3:									
Inman	Moderate	Moderate	Moderate	Slight	Moderate	eastern redcedar	50	57	eastern redcedar,
						Virginia pine	60	75	Virginia pine
JNF:									
Jefferson	Severe	Severe	Slight	Slight	Moderate	shortleaf pine	90	114	shortleaf pine,
						southern red oak	85	57	southern red oak,
						white oak	85	57	white oak, yellow-
						yellow-poplar	90	107	poplar
Nella	Moderate	Severe	Slight	Slight	Moderate	shortleaf pine	90	114	shortleaf pine,
						southern red oak	85	57	southern red oak,
						white oak	85	57	white oak, yellow-
						yellow-poplar	90	107	poplar
Le:									
Lee	Slight	Moderate	Moderate	Slight	Severe	sweetgum	90	100	sweetgum, American
						American sycamore	90	86	sycamore, swamp
						swamp white oak	80	86	white oak, water
						water oak	80	72	oak, willow oak
						willow oak	80	72	
Ln:									
Lindell	Slight	Slight	Moderate	Slight	Severe	yellow-poplar	100	107	yellow-poplar,
						sweetgum	95	98	sweetgum, American
						American sycamore	90	85	sycamore, swamp
						swamp white oak	85	62	white oak

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
Lo:									
Lobelville	Slight	Slight	Slight	Slight	Severe	yellow-poplar	100	107	yellow-poplar,
						sweetgum	95	98	sweetgum, American
						American sycamore	90	85	sycamore, swamp
						swamp white oak	85	62	white oak, black
						black walnut	70	57	walnut
Lv:									
Lobelville	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	100	107	yellow-poplar,
						sweetgum	95	98	sweetgum, American
						American sycamore	90	85	sycamore, swamp
						swamp white oak	85	62	white oak
LwC:									
Lonewood	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	70	114	shortleaf pine,
						Virginia pine	70	114	Virginia pine,
						white oak	70	57	white oak
MmC2:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	57	chestnut oak,
						eastern redcedar	50	45	eastern redcedar
MmD2:									
Mimosa	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	57	chestnut oak,
						eastern redcedar	50	45	eastern redcedar
MrC:									
Mimosa	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	57	chestnut oak,
						eastern redcedar	50	45	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
MsB:									
Monongahela	Slight	Slight	Slight	Slight	Moderate	yellow-poplar	100	107	yellow-poplar,
						sweetgum	95	93	sweetgum, swamp
						swamp white oak	85	62	white oak,
						cherrybark oak	95	62	cherrybark oak

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
MtB:									
Mountview	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	65	113	shortleaf pine,
						yellow-poplar	75	90	yellow-poplar,
						southern red oak	70	57	southern red oak,
						white oak	70	52	white oak
MtC2:									
Mountview	Moderate	Slight	Slight	Slight	Moderate	shortleaf pine	65	113	shortleaf pine,
						yellow-poplar	75	90	yellow-poplar,
						southern red oak	70	57	southern red oak,
						white oak	70	52	white oak
Oc:									
Ocana	Slight	Slight	Slight	Slight	Severe	yellow-poplar	100	114	yellow-poplar,
						shortleaf pine	90	129	shortleaf pine,
						cherrybark oak	85	62	cherrybark oak,
						white oak	80	57	white oak
On:									
Ocana	Slight	Slight	Slight	Slight	Severe	yellow-poplar	100	114	yellow-poplar,
						shortleaf pine	90	129	shortleaf pine,
						cherrybark oak	85	62	cherrybark oak,
						white oak	80	57	white oak
Pt:									
Pits, quarry	---	---	---	---	---	---	---	---	---
RoC:									
Rock outcrop	---	---	---	---	---	---	---	---	---
Barfield	Slight	Slight	Moderate	Severe	Moderate	eastern redcedar	45	43	eastern redcedar
Ashwood	Slight	Slight	Slight	Slight	Moderate	eastern redcedar	45	43	eastern redcedar
RoE2:									
Rock outcrop	---	---	---	---	---	---	---	---	---
Barfield	Moderate	Moderate	Moderate	Severe	Moderate	eastern redcedar	45	43	eastern redcedar
Ashwood	Moderate	Moderate	Slight	Slight	Moderate	eastern redcedar	45	43	eastern redcedar
RoF:									
Rock outcrop	---	---	---	---	---	---	---	---	---

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
RoF:									
Barfield	Severe	Severe	Moderate	Severe	Moderate	eastern redcedar	45	43	eastern redcedar
Ashwood	Severe	Severe	Slight	Slight	Moderate	eastern redcedar	45	43	eastern redcedar
Sa:									
Sango	Slight	Slight	Slight	Moderate	Moderate	yellow-poplar	90	90	yellow-poplar,
						southern red oak	75	57	southern red oak,
						white oak	70	57	white oak,
						cherrybark oak	70	57	cherrybark oak
SgC:									
Sugargrove	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	60	79	shortleaf pine,
						Virginia pine	55	55	Virginia pine,
						chestnut oak	50	41	chestnut oak,
						eastern redcedar	45	43	eastern redcedar
SgD:									
Sugargrove	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	60	79	shortleaf pine,
						Virginia pine	55	55	Virginia pine,
						chestnut oak	50	41	chestnut oak,
						eastern redcedar	45	43	eastern redcedar
SkB:									
Sykes	Slight	Slight	Slight	Slight	Moderate	black walnut	85	75	black walnut,
						cherrybark oak	80	62	cherrybark oak,
						shortleaf pine	90	144	shortleaf pine,
						white oak	80	62	white oak, yellow-
						yellow-poplar	100	107	poplar
SkC2:									
Sykes	Moderate	Slight	Slight	Slight	Moderate	black walnut	85	75	black walnut,
						cherrybark oak	80	62	cherrybark oak,
						shortleaf pine	90	144	shortleaf pine,
						white oak	80	62	white oak, yellow-
						yellow-poplar	100	107	poplar
Ta:									
Taft	Slight	Moderate	Moderate	Moderate	Severe	yellow-poplar	95	98	yellow-poplar,
						sweetgum	95	93	sweetgum, swamp
						swamp white oak	85	63	white oak,
						American sycamore	80	75	American sycamore

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
TbB2:									
Talbott	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
TbC2:									
Talbott	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
TcC2:									
Talbott	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
TcC3:									
Talbott	Moderate	Moderate	Moderate	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
ToD:									
Talbott	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
ToF:									
Talbott	Severe	Severe	Severe	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						chestnut oak	70	52	chestnut oak,
						eastern redcedar	50	57	eastern redcedar
Rock outcrop	---	---	---	---	---	---	---	---	---
TrB:									
Tarklin	Slight	Slight	Slight	Slight	Moderate	chestnut oak	80	57	chestnut oak,
						Virginia pine	70	85	Virginia pine,
						chestnut oak	65	57	chestnut oak,
						eastern redcedar	40	40	eastern redcedar

* See footnote at end of table.

Table 7.--Woodland Management and Productivity--continued

Map symbol and soil name	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume of wood fiber*	Suggested trees to plant
TrC2:									
Tarklin	Slight	Slight	Slight	Slight	Moderate	chestnut oak	80	57	chestnut oak,
						Virginia pine	70	85	Virginia pine,
						chestnut oak	65	57	chestnut oak,
						eastern redcedar	40	40	eastern redcedar
Tt:									
Trace	Slight	Slight	Slight	Slight	Severe	black walnut	80	62	black walnut,
						cherrybark oak	90	63	cherrybark oak,
						sweetgum	85	95	sweetgum, yellow-
						yellow-poplar	100	107	poplar
W:									
Water	---	---	---	---	---	---	---	---	---
WaC2:									
Waynesboro	Slight	Slight	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						white oak	70	57	white oak, yellow-
						yellow-poplar	90	86	poplar
WaD2:									
Waynesboro	Moderate	Moderate	Slight	Slight	Moderate	shortleaf pine	80	114	shortleaf pine,
						southern red oak	70	57	southern red oak,
						white oak	70	57	white oak, yellow-
						yellow-poplar	90	86	poplar

* 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

(The information in this table indicates the degree of limitation of the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
ArA:					
Armour	Severe: flooding	Slight	Slight	Slight	Slight
ArB:					
Armour	Slight	Slight	Moderate: slope	Slight	Slight
At:					
Arrington	Severe: flooding	Slight	Moderate: flooding	Slight	Moderate: flooding
BaC:					
Barfield	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
Talbott	Moderate: percs slowly	Moderate: percs slowly	Severe: slope	Slight	Moderate: depth to rock
BeC2:					
Bewleyville	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
BeD2:					
Bewleyville	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: slope
BrB:					
Bradyville	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope small stones	Severe: erodes easily	Slight
BrC2:					
Bradyville	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Severe: erodes easily	Moderate: slope
CaB:					
Capshaw	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: slope wetness	Severe: erodes easily	Slight
ChC2:					
Christian	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
ChC3:					
Christian	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
ChD2:					
Christian	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: slope

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CrC2:					
Christian	Severe: small stones	Severe: small stones	Severe: slope small stones	Slight	Severe: small stones
CrD2:					
Christian	Severe: slope small stones	Severe: slope small stones	Severe: slope small stones	Moderate: slope	Severe: slope small stones
DeC:					
Dellrose	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
DeD2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
DeE2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
DeF2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
DhD2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
DhE2:					
Dellrose	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
DkB:					
Dickson	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly slope wetness	Severe: erodes easily	Slight
DkC2:					
Dickson	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Severe: slope	Severe: erodes easily	Slight
Ea:					
Eagleville	Severe: flooding wetness	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: flooding wetness
Eg:					
Egam	Severe: flooding	Moderate: percs slowly	Moderate: flooding percs slowly	Slight	Moderate: flooding

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
EtC:					
Etowah	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: slope small stones
EtD2:					
Etowah	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
EtE2:					
Etowah	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
GpE:					
Gilpin	Severe: slope small stones	Severe: slope small stones	Severe: large stones slope small stones	Severe: slope	Severe: large stones slope small stones
GrE2:					
Gladdice	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
GrF2:					
Gladdice	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
GvC:					
Gladeville	Severe: small stones	Severe: small stones	Severe: large stones slope small stones	Severe: small stones	Severe: small stones depth to rock
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
Gw:					
Guthrie	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding
HaC2:					
Hampshire	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Severe: erodes easily	Moderate: slope
HaD2:					
Hampshire	Severe: slope	Severe: slope	Severe: slope	Severe: erodes easily	Severe: slope

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
HbD:					
Hawthorne	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
HbF:					
Hawthorne	Severe: slope	Severe: slope	Severe: slope small stones	Severe: slope	Severe: slope
InC2:					
Inman	Moderate: large stones percs slowly slope	Moderate: large stones percs slowly slope	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
InE3:					
Inman	Severe: slope too clayey	Severe: slope too clayey	Severe: large stones slope too clayey	Severe: too clayey	Severe: large stones slope too clayey
JNF:					
Jefferson	Severe: slope	Severe: slope	Severe: large stones slope small stones	Severe: slope	Severe: slope
Nella	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Le:					
Lee	Severe: flooding wetness	Severe: wetness	Severe: small stones wetness	Moderate: wetness	Poor: wetness ponding
Ln:					
Lindell	Severe: flooding	Moderate: wetness	Moderate: flooding small stones wetness	Slight	Moderate: flooding
Lo:					
Lobelville	Severe: flooding	Moderate: wetness	Moderate: flooding small stones	Slight	Moderate: flooding
Lv:					
Lobelville	Severe: flooding	Moderate: flooding small stones wetness	Severe: flooding small stones	Moderate: flooding	Severe: flooding

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
LwC:					
Lonewood	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
MmC2:					
Mimosa	Moderate: percs slowly	Moderate: percs slowly	Severe: slope	Slight	Slight
MmD2:					
Mimosa	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
MrC:					
Mimosa	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
MsB:					
Monongahela	Moderate: wetness	Moderate: wetness	Moderate: slope small stones	Severe: erodes easily	Moderate: wetness
MtB:					
Mountview	Slight	Slight	Moderate: slope	Severe: erodes easily	Slight
MtC2:					
Mountview	Moderate: slope	Moderate: slope	Severe: slope	Severe: erodes easily	Moderate: slope
Oc:					
Ocana	Severe: flooding	Moderate: small stones	Severe: small stones	Slight	Moderate: small stones
On:					
Ocana	Severe: flooding	Moderate: small stones	Severe: small stones	Slight	Moderate: flooding large stones small stones
Pt:					
Pits, quarry	---	---	---	---	---
RoC:					
Rock outcrop	---	---	---	---	---
Barfield	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Slight	Severe: depth to rock
Ashwood	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
RoE2:					
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
RoE2:					
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
Ashwood	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
RoF:					
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock
Ashwood	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Sa:					
Sango	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Severe: erodes easily	Slight
SgC:					
Sugargrove	Moderate: slope small stones	Moderate: slope small stones	Severe: slope small stones	Slight	Moderate: large stones slope small stones
SgD:					
Sugargrove	Severe: slope	Severe: slope	Severe: slope small stones	Moderate: slope	Severe: slope
SkB:					
Sykes	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope small stones	Severe: erodes easily	Slight
SkC2:					
Sykes	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Severe: erodes easily	Moderate: slope
Ta:					
Taft	Severe: wetness	Moderate: percs slowly wetness	Severe: wetness	Moderate: wetness	Moderate: wetness
TbB2:					
Talbott	Moderate: percs slowly	Moderate: percs slowly	Moderate: percs slowly slope	Slight	Moderate: depth to rock
TbC2:					
Talbott	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock

Table 8.--Recreational Development--continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
TcC2:					
Talbott	Moderate: percs slowly slope	Moderate: percs slowly slope	Severe: slope	Slight	Moderate: slope depth to rock
TcC3:					
Talbott	Severe: too clayey	Severe: too clayey	Severe: slope too clayey	Severe: too clayey	Severe: too clayey
ToD:					
Talbott	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Moderate: slope	Severe: slope depth to rock
ToF:					
Talbott	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Rock outcrop	---	---	---	---	---
TrB:					
Tarklin	Moderate: small stones	Moderate: small stones wetness	Severe: small stones	Moderate: wetness	Moderate: large stones small stones wetness
TrC2:					
Tarklin	Moderate: slope small stones	Moderate: slope small stones wetness	Severe: slope small stones	Moderate: wetness	Moderate: large stones small stones wetness
Tt:					
Trace	Severe: flooding	Slight	Moderate: small stones	Slight	Slight
W:					
Water	---	---	---	---	---
WaC2:					
Waynesboro	Moderate: slope	Moderate: slope	Severe: slope	Slight	Moderate: slope
WaD2:					
Waynesboro	Severe: slope	Severe: slope	Severe: slope	Moderate: slope	Severe: slope

Table 9.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
ArA:										
Armour	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ArB:										
Armour	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
At:										
Arrington	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BaC:										
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Talbott	Fair	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
BeD2:										
Bewleyville	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
BrB:										
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
CaB:										
Capshaw	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
ChC2:										
Christian	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ChC3:										
Christian	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ChD2:										
Christian	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
CrC2:										
Christian	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CrD2:										
Christian	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DeC:										
Dellrose	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DeD2:										
Dellrose	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DeE2:										
Dellrose	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DeF2:										
Dellrose	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
DhD3:										
Dellrose	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
DhE3:										
Dellrose	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
DkB:										
Dickson	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
DkC2:										
Dickson	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Ea:										
Eagleville	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Eg:										
Egam	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
EtC:										
Etowah	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
EtD2:										
Etowah	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
EtE2:										
Etowah	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
GpE:										
Gilpin	Very poor	Poor	Good	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
GrE2:										
Gladdice	Very poor	Fair	Poor	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
GrF2:										
Gladdice	Very poor	Fair	Poor	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
GvC:										
Gladeville	Very poor	Very poor	Poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Gw:										
Guthrie	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
HaC2:										
Hampshire	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HaD2:										
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
InC2:										
Inman	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
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
InE3:										
Inman	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
JNF:										
Jefferson	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Nella	Very poor	Poor	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Le:										
Lee	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Good
Ln:										
Lindell	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Lo:										
Lobelville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Lv:										
Lobelville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
LwC:										
Lonewood	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
MrC:										
Mimosa	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
MsB:										
Monongahela	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MtB:										
Mountview	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
MtC2:										
Mountview	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
Oc:										
Ocana	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
On:										
Ocana	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
Pt:										
Pits, quarry	---	---	---	---	---	---	---	---	---	---
RoC:										
Rock outcrop	---	---	---	---	---	---	---	---	---	---
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Fair	Good	Fair	Good	Good	Very poor	Very poor	Fair	Good	Very poor
RoE2:										
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Very poor	Fair	Poor	Good	Good	Very poor	Very poor	Poor	Good	Very poor
RoF:										
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
Barfield	Poor	Poor	Fair	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Ashwood	Very poor	Fair	Poor	Good	Good	Very poor	Very poor	Poor	Good	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Sa:										
Sango	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
SgC:										
Sugargrove	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SgD:										
Sugargrove	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
SkB:										
Sykes	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SkC2:										
Sykes	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Ta:										
Taft	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
TbB2:										
Talbott	Fair	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TbC2:										
Talbott	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TcC2:										
Talbott	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
TcC3:										
Talbott	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
ToD:										
Talbott	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor

Table 9.--Wildlife Habitat--continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
ToF:										
Talbott	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Rock outcrop	---	---	---	---	---	---	---	---	---	---
TrB:										
Tarklin	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
TrC2:										
Tarklin	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Tt:										
Trace	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
W:										
Water	---	---	---	---	---	---	---	---	---	---
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

Table 10.--Building Site Development

(The information in this table indicates the degree of limitation of the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
ArA:						
Armour	Slight	Severe: flooding	Severe: flooding	Severe: flooding	Severe: low strength	Slight
ArB:						
Armour	Slight	Slight	Slight	Slight	Severe: low strength	Slight
At:						
Arrington	Moderate: flooding wetness	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Moderate: flooding
BaC:						
Barfield	Severe: depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell depth to rock	Severe: low strength shrink-swell depth to rock	Severe: depth to rock
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock
Talbott	Severe: depth to rock	Moderate: shrink-swell depth to rock	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: low strength	Moderate: depth to rock
BeC2:						
Bewleyville	Moderate: slope too clayey	Moderate: slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
BeD2:						
Bewleyville	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
BrB:						
Bradyville	Moderate: too clayey depth to rock	Moderate: shrink-swell	Moderate: shrink-swell depth to rock	Moderate: shrink-swell	Severe: low strength	Slight

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
BrC2:						
Bradyville	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope
CaB:						
Capshaw	Severe: wetness	Moderate: shrink-swell wetness	Moderate: shrink-swell wetness depth to rock	Moderate: shrink-swell slope wetness	Severe: low strength	Slight
ChC2:						
Christian	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Moderate: low strength shrink-swell slope	Moderate: slope
ChC3:						
Christian	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Moderate: low strength shrink-swell slope	Moderate: slope
ChD2:						
Christian	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
CrC2:						
Christian	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Moderate: low strength shrink-swell slope	Severe: small stones
CrD2:						
Christian	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope small stones
DeC:						
Dellrose	Moderate: slope too clayey	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: large stones slope small stones

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
DeD2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DeE2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DeF2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DhD2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DhE2:						
Dellrose	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
DkB:						
Dickson	Severe: wetness	Moderate: wetness	Severe: wetness	Moderate: wetness	Severe: low strength	Slight
DkC2:						
Dickson	Severe: wetness	Moderate: wetness	Severe: wetness	Moderate: slope wetness	Severe: low strength	Slight
Ea:						
Eagleville	Severe: wetness depth to rock	Severe: flooding shrink-swell wetness	Severe: flooding wetness depth to rock	Severe: flooding shrink-swell wetness	Severe: flooding low strength shrink-swell	Moderate: flooding wetness
Eg:						
Egam	Moderate: flooding too clayey wetness	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding low strength	Moderate: flooding
EtC:						
Etowah	Moderate: slope too clayey	Moderate: slope	Moderate: slope	Severe: slope	Moderate: low strength slope	Moderate: slope small stones

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
EtD2:						
Etowah	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
EtE2:						
Etowah	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
GpE:						
Gilpin	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: large stones slope small stones
GrE2:						
Gladdice	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock
GrF2:						
Gladdice	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock
GvC:						
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
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock
Gw:						
Guthrie	Severe: ponding	Severe: ponding	Severe: ponding	Severe: ponding	Severe: low strength ponding	Severe: ponding

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HaC2:						
Hampshire	Moderate: slope too clayey	Moderate: shrink-swell slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
HaD2:						
Hampshire	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
HbD:						
Hawthorne	Moderate: slope depth to rock	Moderate: slope	Moderate: slope depth to rock	Severe: slope	Moderate: slope	Moderate: large stones slope small stones
HbF:						
Hawthorne	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
InC2:						
Inman	Moderate: slope too clayey depth to rock	Moderate: large stones shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Severe: large stones
InD2:						
Inman	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: large stones slope
InE2:						
Inman	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: large stones slope
InE3:						
Inman	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: large stones slope too clayey
JNF:						
Jefferson	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
JNF:						
Nella	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
Le:						
Lee	Severe: wetness ponding	Severe: flooding wetness ponding	Severe: flooding wetness ponding	Severe: flooding wetness ponding	Severe: flooding wetness ponding	Poor: wetness ponding
Ln:						
Lindell	Severe: wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Moderate: flooding
Lo:						
Lobelville	Severe: wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Moderate: flooding
Lv:						
Lobelville	Severe: wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding	Severe: flooding	Severe: flooding
LwC:						
Lonewood	Moderate: slope depth to rock	Moderate: slope	Moderate: slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope
MmC2:						
Mimosa	Moderate: too clayey depth to rock	Moderate: shrink-swell	Moderate: shrink-swell depth to rock	Moderate: shrink-swell slope	Severe: low strength	Slight
MmD2:						
Mimosa	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: low strength slope	Severe: slope
MrC:						
Mimosa	Moderate: slope too clayey depth to rock	Moderate: shrink-swell slope	Moderate: shrink-swell slope depth to rock	Severe: slope	Severe: low strength	Moderate: slope

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
MrC:						
Rock outcrop	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock
MsB:						
Monongahela	Severe: wetness	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: frost action wetness	Moderate: wetness
MtB:						
Mountview	Moderate: too clayey	Slight	Moderate: shrink-swell	Slight	Severe: low strength	Slight
MtC2:						
Mountview	Moderate: slope too clayey	Moderate: slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope
Oc:						
Ocana	Slight	Severe: flooding	Severe: flooding	Severe: flooding	Moderate: flooding	Moderate: small stones
On:						
Ocana	Moderate: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Moderate: flooding large stones small stones
Pt:						
Pits, quarry	---	---	---	---	---	---
RoC:						
Rock outcrop	---	---	---	---	---	---
Barfield	Severe: depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell depth to rock	Severe: shrink-swell slope depth to rock	Severe: low strength shrink-swell depth to rock	Severe: depth to rock
Ashwood	Severe: depth to rock	Severe: shrink-swell	Severe: shrink-swell depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell	Moderate: slope depth to rock
RoE2:						
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
RoE2:						
Barfield	Severe: slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: low strength shrink-swell depth to rock	Severe: slope depth to rock
Ashwood	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
RoF:						
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope depth to rock	Severe: low strength shrink-swell depth to rock	Severe: slope depth to rock
Ashwood	Severe: slope depth to rock	Severe: shrink-swell slope	Severe: shrink-swell slope depth to rock	Severe: shrink-swell slope	Severe: low strength shrink-swell slope	Severe: slope
Sa:						
Sango	Moderate: wetness	Moderate: wetness	Severe: wetness	Moderate: wetness	Severe: low strength	Slight
SgC:						
Sugargrove	Moderate: slope too clayey	Moderate: slope	Moderate: slope	Severe: slope	Moderate: slope	Moderate: large stones slope small stones
SgD:						
Sugargrove	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
SkB:						
Sykes	Moderate: too clayey	Slight	Moderate: shrink-swell	Slight	Severe: low strength	Slight
SkC2:						
Sykes	Moderate: slope too clayey	Moderate: slope	Moderate: shrink-swell slope	Severe: slope	Severe: low strength	Moderate: slope

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Ta:						
Taft	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength	Moderate: wetness
TbB2:						
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
TbC2:						
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
TcC2:						
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
TcC3:						
Talbott	Severe: depth to rock	Moderate: shrink-swell slope depth to rock	Severe: depth to rock	Severe: slope	Severe: low strength	Severe: too clayey
ToD:						
Talbott	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock	Severe: slope	Severe: low strength slope	Severe: slope
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock
ToF:						
Talbott	Severe: slope depth to rock	Severe: slope	Severe: slope depth to rock	Severe: slope	Severe: low strength slope	Severe: slope
Rock outcrop	---	---	---	---	---	---

Table 10.--Building Site Development--continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
TrB:						
Tarklin	Severe: wetness	Moderate: wetness	Severe: wetness	Moderate: wetness	Moderate: wetness	Moderate: large stones small stones wetness
TrC2:						
Tarklin	Severe: wetness	Moderate: slope wetness	Severe: wetness	Severe: slope	Moderate: slope wetness	Moderate: large stones small stones wetness
Tt:						
Trace	Slight	Severe: flooding	Severe: flooding	Severe: flooding	Moderate: flooding	Slight
W:						
Water	---	---	---	---	---	---
WaC2:						
Waynesboro	Moderate: slope too clayey	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

Table 11.--Sanitary Facilities

(The information in this table indicates degree of limitation of the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
ArA:					
Armour	Moderate: flooding percs slowly	Moderate: seepage	Moderate: too clayey	Moderate: flooding	Fair: too clayey
ArB:					
Armour	Moderate: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: thin layer too clayey
At:					
Arrington	Severe: flooding	Severe: flooding	Severe: flooding wetness	Severe: flooding	Good
BaC:					
Barfield	Severe: depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
BeC2:					
Bewleyville	Moderate: percs slowly slope	Severe: slope	Severe: too clayey	Moderate: slope	Poor: hard to pack too clayey
BeD2:					
Bewleyville	Severe: slope	Severe: slope	Severe: slope too clayey	Severe: slope	Poor: hard to pack slope too clayey
BrB:					
Bradyville	Severe: percs slowly	Moderate: seepage slope depth to rock	Severe: too clayey depth to rock	Moderate: depth to rock	Poor: hard to pack too clayey
BrC2:					
Bradyville	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
CaB:					
Capshaw	Severe: percs slowly wetness	Moderate: slope depth to rock	Severe: too clayey wetness depth to rock	Severe: wetness	Poor: hard to pack too clayey

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
ChC2:					
Christian	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Poor: small stones
ChC3:					
Christian	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Poor: small stones
ChD2:					
Christian	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope small stones
CrC2:					
Christian	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Poor: small stones
CrD2:					
Christian	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope small stones
DeC:					
Dellrose	Moderate: percs slowly slope	Severe: seepage slope	Moderate: slope too clayey	Severe: seepage	Poor: small stones
DeD2:					
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones
DeE2:					
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones
DeF2:					
Dellrose	Severe: slope	Severe: seepage slope	Severe: slope	Severe: seepage slope	Poor: slope small stones
DhD2:					
Dellrose	Severe: slope percs slowly	Severe: slope	Severe: slope	Severe: slope	Poor: slope small stones
DhE2:					
Dellrose	Severe: slope percs slowly	Severe: slope	Severe: slope	Severe: slope	Poor: slope small stones
DkB:					
Dickson	Severe: percs slowly wetness	Severe: wetness	Moderate: too clayey wetness	Moderate: wetness	Fair: too clayey wetness

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
DkC2:					
Dickson	Severe: percs slowly wetness	Severe: wetness	Moderate: too clayey wetness	Moderate: wetness	Fair: too clayey wetness
Ea:					
Eagleville	Severe: flooding wetness depth to rock	Severe: flooding depth to rock	Severe: flooding wetness depth to rock	Severe: flooding wetness depth to rock	Poor: hard to pack too clayey depth to rock
Eg:					
Egam	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey
EtC:					
Etowah	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: too clayey
EtD2:					
Etowah	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
EtE2:					
Etowah	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
GpE:					
Gilpin	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope small stones depth to rock
GrE2:					
Gladdice	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
GrF2:					
Gladdice	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
GvC:					
Gladeville	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
GvC:					
Rock outcrop	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Gw:					
Guthrie	Severe: percs slowly ponding	Severe: ponding	Severe: ponding	Severe: ponding	Poor: ponding
HaC2:					
Hampshire	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
HaD2:					
Hampshire	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
HbD:					
Hawthorne	Severe: depth to rock	Severe: seepage slope depth to rock	Severe: seepage depth to rock	Severe: seepage depth to rock	Poor: small stones depth to rock
HbF:					
Hawthorne	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Poor: slope small stones depth to rock
InC2:					
Inman	Severe: percs slowly depth to rock	Severe: large stones slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
InD2:					
Inman	Severe: percs slowly slope depth to rock	Severe: large stones slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
InE2:					
Inman	Severe: percs slowly slope depth to rock	Severe: large stones slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
InE3:					
Inman	Severe: percs slowly slope depth to rock	Severe: large stones slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
JNF:					
Jefferson	Severe: slope	Severe: seepage slope	Severe: seepage slope	Severe: seepage slope	Poor: slope

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
JNF:					
Nella	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope small stones
Le:					
Lee	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Poor: small stones wetness
Ln:					
Lindell	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Fair: small stones too clayey wetness
Lo:					
Lobelville	Severe: flooding wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: small stones
Lv:					
Lobelville	Severe: flooding wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: small stones
LwC:					
Lonewood	Moderate: percs slowly slope depth to rock	Severe: slope	Severe: depth to rock	Moderate: slope depth to rock	Fair: slope too clayey depth to rock
MmC2:					
Mimosa	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: depth to rock	Poor: hard to pack too clayey
MmD2:					
Mimosa	Severe: percs slowly slope	Severe: slope	Severe: slope too clayey depth to rock	Severe: slope	Poor: hard to pack slope too clayey
MrC:					
Mimosa	Severe: percs slowly	Severe: slope	Severe: too clayey depth to rock	Moderate: slope depth to rock	Poor: hard to pack too clayey
Rock outcrop	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
MsB:					
Monongahela	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Moderate: wetness	Fair: small stones wetness
MtB:					
Mountview	Moderate: percs slowly	Moderate: seepage slope	Severe: too clayey	Slight	Poor: hard to pack small stones too clayey

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MtC2:					
Mountview	Moderate: percs slowly slope	Severe: slope	Severe: too clayey	Moderate: slope	Poor: hard to pack small stones too clayey
Oc:					
Ocana	Moderate: flooding	Severe: seepage	Severe: seepage	Severe: seepage	Poor: small stones
On:					
Ocana	Severe: flooding	Severe: flooding seepage	Severe: flooding seepage	Severe: flooding seepage	Poor: small stones
Pt:					
Pits, quarry	---	---	---	---	---
RoC:					
Rock outcrop	---	---	---	---	---
Barfield	Severe: depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
Ashwood	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
RoE2:					
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Ashwood	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
RoF:					
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Ashwood	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Sa:					
Sango	Severe: percs slowly wetness	Moderate: seepage	Moderate: too clayey wetness	Moderate: wetness	Fair: wetness
SgC:					
Sugargrove	Moderate: percs slowly slope depth to rock	Severe: seepage slope	Severe: seepage depth to rock	Severe: seepage	Poor: small stones
SgD:					
Sugargrove	Severe: slope	Severe: seepage slope	Severe: seepage slope depth to rock	Severe: seepage slope	Poor: slope small stones
SkB:					
Sykes	Severe: percs slowly	Moderate: seepage slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
SkC2:					
Sykes	Severe: percs slowly	Severe: slope	Severe: too clayey	Moderate: slope	Poor: hard to pack too clayey
Ta:					
Taft	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Poor: wetness
TbB2:					
Talbott	Severe: percs slowly depth to rock	Severe: depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TbC2:					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TcC2:					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
TcC3:					
Talbott	Severe: percs slowly depth to rock	Severe: slope depth to rock	Severe: too clayey depth to rock	Severe: depth to rock	Poor: hard to pack too clayey depth to rock
ToD:					
Talbott	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock

Table 11.--Sanitary Facilities--continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
ToD:					
Rock outcrop	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
ToF:					
Talbott	Severe: percs slowly slope depth to rock	Severe: slope depth to rock	Severe: slope too clayey depth to rock	Severe: slope depth to rock	Poor: hard to pack too clayey depth to rock
Rock outcrop	---	---	---	---	---
TrB:					
Tarklin	Severe: percs slowly wetness	Severe: seepage	Severe: seepage wetness	Moderate: wetness	Poor: small stones
TrC2:					
Tarklin	Severe: percs slowly wetness	Severe: seepage slope	Severe: seepage wetness	Moderate: slope wetness	Poor: small stones
Tt:					
Trace	Moderate: flooding percs slowly depth to rock	Severe: seepage	Severe: seepage depth to rock	Severe: seepage	Fair: thin layer too clayey
W:					
Water	---	---	---	---	---
WaC2:					
Waynesboro	Moderate: percs slowly slope	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: hard to pack slope too clayey
WaD2:					
Waynesboro	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope

Table 12.--Construction Materials

(The information in this table rates soils as a source for certain construction materials but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
ArA:				
Armour	Fair: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones
ArB:				
Armour	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones too clayey
At:				
Arrington	Fair: low strength thin layer	Improbable: excess fines	Improbable: thin layer excess fines	Good
BaC:				
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock
Rock outcrop	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
BeC2:				
Bewleyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: slope thin layer too clayey
BeD2:				
Bewleyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: slope
BrB:				
Bradyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
BrC2:				
Bradyville	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
CaB:				
Capshaw	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
ChC2:				
Christian	Fair: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones too clayey

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
ChC3:				
Christian	Fair: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
ChD2:				
Christian	Fair: low strength, shrink-swell, slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
CrC2:				
Christian	Fair: low strength, shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
CrD2:				
Christian	Fair: low strength, shrink-swell, slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones, too clayey
DeC:				
Dellrose	Fair: thin layer	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, small stones
DeD2:				
Dellrose	Fair: slope, thin layer	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DeE2:				
Dellrose	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DeF2:				
Dellrose	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DhD2:				
Dellrose	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DhE2:				
Dellrose	Poor: low strength, slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim, slope, small stones
DkB:				
Dickson	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: area reclaim, small stones, too clayey

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
DkC2:				
Dickson	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: area reclaim small stones too clayey
Ea:				
Eagleville	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Eg:				
Egam	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
EtC:				
Etowah	Fair: low strength thin layer	Improbable: excess fines	Improbable: excess fines	Poor: small stones
EtD2:				
Etowah	Fair: low strength slope thin layer	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
EtE2:				
Etowah	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
GpE:				
Gilpin	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
GrE2:				
Gladdice	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Rock outcrop	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope depth to rock
GrF2:				
Gladdice	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Rock outcrop	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope depth to rock
GvC:				
Gladeville	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones depth to rock
Rock outcrop	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Gw:				
Guthrie	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
HaC2:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim too clayey
HaD2:				
Hampshire	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope too clayey
HbD:				
Hawthorne	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones
HbF:				
Hawthorne	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope small stones
InC2:				
Inman	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: large stones too clayey
InD2:				
Inman	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: large stones slope too clayey
InE2:				
Inman	Poor: low strength slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: large stones slope too clayey
InE3:				
Inman	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: large stones slope too clayey
JNF:				
Jefferson	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope
Nella	Poor: slope	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope
Le:				
Lee	Poor: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones wetness

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Ln:				
Lindell	Fair: low strength wetness	Improbable: excess fines	Improbable: excess fines	Good
Lo:				
Lobelville	Fair: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
Lv:				
Lobelville	Fair: wetness	Improbable: excess fines	Probable: excess fines	Poor: area reclaim small stones
LwC:				
Lonewood	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: slope small stones too clayey
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: slope too clayey
MrC:				
Mimosa	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
Rock outcrop	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: depth to rock
MsB:				
Monongahela	Fair: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
MtB:				
Mountview	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim
MtC2:				
Mountview	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim
Oc:				
Ocana	Good	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
On:				
Ocana	Good	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
Pt:				
Pits, quarry	---	---	---	---

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
RoC:				
Rock outcrop	---	---	---	---
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
RoE2:				
Rock outcrop	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope depth to rock
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
RoF:				
Rock outcrop	Poor: slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope depth to rock
Barfield	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: small stones too clayey depth to rock
Ashwood	Poor: low strength shrink-swell depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Sa:				
Sango	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones
SgC:				
Sugargrove	Fair: thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
SgD:				
Sugargrove	Fair: slope thin layer depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim slope small stones
SkB:				
Sykes	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones thin layer too clayey

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
SkC2:				
Sykes	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: small stones thin layer too clayey
Ta:				
Taft	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: thin layer
TbB2:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TbC2:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TcC2:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
TcC3:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
ToD:				
Talbott	Poor: low strength depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Rock outcrop	Poor: depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope depth to rock
ToF:				
Talbott	Poor: low strength slope depth to rock	Improbable: excess fines	Improbable: excess fines	Poor: slope too clayey
Rock outcrop	---	---	---	---
TrB:				
Tarklin	Fair: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
TrC2:				
Tarklin	Fair: wetness	Improbable: excess fines	Improbable: excess fines	Poor: area reclaim small stones
Tt:				
Trace	Good	Improbable: small stones	Probable	Poor: area reclaim
W:				
Water	---	---	---	---

Table 12.--Construction Materials--continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
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: slope too clayey

Table 13.--Water Management

(The information in this table indicates the degree of limitation of the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
ArA:							
Armour	Moderate: seepage	Moderate: piping thin layer	Severe: no water	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
ArB:							
Armour	Moderate: seepage slope	Moderate: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
At:							
Arrington	Moderate: seepage	Severe: piping	Moderate: slow refill deep to water	Limitation: deep to water	Limitation: erodes easily flooding	Limitation: erodes easily	Limitation: erodes easily
BaC:							
Barfield	Severe: depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: depth to rock	Limitation: depth to rock droughty
Rock outcrop	Severe: depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: depth to rock	Limitation: depth to rock
Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
BeC2:							
Bewleyville	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
BeD2:							
Bewleyville	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
BrB:							
Bradyville	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
BrC2:							
Bradyville	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
CaB:							
Capshaw	Moderate: slope depth to rock	Severe: hard to pack	Severe: slow refill	Limitation: percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly
ChC2:							
Christian	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
ChC3:							
Christian	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
ChD2:							
Christian	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
CrC2:							
Christian	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
CrD2:							
Christian	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DeC:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DeD2:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
DeE2:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DeF2:							
Dellrose	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DhD2:							
Dellrose	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DhE2:							
Dellrose	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
DkB:							
Dickson	Moderate: seepage	Severe: piping	Severe: no water	Limitation: percs slowly	Limitation: percs slowly wetness	Limitation: erodes easily wetness	Limitation: erodes easily rooting depth
DkC2:							
Dickson	Moderate: seepage slope	Severe: piping	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily rooting depth
Ea:							
Eagleville	Moderate: depth to rock	Severe: hard to pack	Severe: no water	Limitation: flooding percs slowly depth to rock	Limitation: percs slowly wetness	Limitation: wetness depth to rock	Limitation: wetness depth to rock
Eg:							
Egam	Slight	Moderate: hard to pack thin layer wetness	Severe: slow refill	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
EtC:							
Etowah	Severe: slope	Moderate: piping thin layer	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
EtD2:							
Etowah	Severe: slope	Moderate: piping thin layer	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
EtE2:							
Etowah	Severe: slope	Moderate: piping thin layer	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
GpE:							
Gilpin	Severe: slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock	Limitation: large stones slope depth to rock
GrE2:							
Gladdice	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
GrF2:							
Gladdice	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
GvC:							
Gladeville	Severe: slope depth to rock	Severe: thin layer	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope droughty
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Gw:							
Guthrie	Slight	Severe: piping ponding	Severe: no water	Limitation: percs slowly ponding	Limitation: percs slowly rooting depth ponding	Limitation: erodes easily rooting depth ponding	Limitation: erodes easily rooting depth wetness
HaC2:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
HaD2:							
Hampshire	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
HbD:							
Hawthorne	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
HbF:							
Hawthorne	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
InC2:							
Inman	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: deep to water	Limitation: large stones slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope droughty
InD2:							
Inman	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: deep to water	Limitation: large stones slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope droughty
InE2:							
Inman	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: deep to water	Limitation: large stones slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope droughty

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
InE3:							
Inman	Severe: slope	Severe: hard to pack large stones	Severe: no water	Limitation: deep to water	Limitation: large stones slope droughty	Limitation: large stones slope depth to rock	Limitation: large stones slope droughty
JNF:							
Jefferson	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: large stones slope	Limitation: large stones slope
Nella	Severe: slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: large stones slope droughty	Limitation: large stones slope	Limitation: large stones slope droughty
Le:							
Lee	Moderate: seepage	Severe: piping wetness	Moderate: slow refill	Limitation: flooding	Limitation: flooding wetness droughty	Limitation: wetness	Limitation: wetness droughty
Ln:							
Lindell	Moderate: seepage	Severe: piping	Moderate: slow refill deep to water	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
Lo:							
Lobelville	Severe: seepage	Severe: seepage	Moderate: slow refill deep to water	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
Lv:							
Lobelville	Severe: seepage	Severe: piping	Moderate: slow refill deep to water	Limitation: flooding	Limitation: flooding wetness	Limitation: wetness	Favorable
LwC:							
Lonewood	Severe: slope	Moderate: piping thin layer	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
MmC2:							
Mimosa	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly	Limitation: erodes easily percs slowly

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
MmD2:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
MrC:							
Mimosa	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: percs slowly slope	Limitation: erodes easily percs slowly slope	Limitation: erodes easily percs slowly slope
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
MsB:							
Monongahela	Moderate: seepage slope	Severe: piping	Severe: no water	Limitation: percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily rooting depth
MtB:							
Mountview	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
MtC2:							
Mountview	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Oc:							
Ocana	Severe: seepage	Moderate: piping	Severe: no water	Limitation: deep to water	Favorable	Favorable	Favorable
On:							
Ocana	Severe: seepage	Moderate: piping	Severe: no water	Limitation: deep to water	Limitation: flooding	Favorable	Favorable
Pt:							
Pits, quarry	---	---	---	---	---	---	---
RoC:							
Rock outcrop	---	---	---	---	---	---	---

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
RoC:							
Barfield	Severe: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
RoE2:							
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
RoF:							
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Barfield	Severe: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope droughty	Limitation: slope depth to rock	Limitation: slope depth to rock droughty
Ashwood	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
Sa:							
Sango	Moderate: seepage	Severe: piping	Severe: no water	Limitation: percs slowly	Limitation: percs slowly rooting depth wetness	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily percs slowly rooting depth

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
SgC:							
Sugargrove	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: large stones slope	Limitation: large stones slope
SgD:							
Sugargrove	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: large stones slope	Limitation: large stones slope
SkB:							
Sykes	Moderate: seepage slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
SkC2:							
Sykes	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Ta:							
Taft	Moderate: seepage	Severe: piping	Severe: no water	Limitation: percs slowly	Limitation: percs slowly rooting depth wetness	Limitation: erodes easily rooting depth wetness	Limitation: erodes easily rooting depth wetness
TbB2:							
Talbott	Moderate: slope depth to rock	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
TbC2:							
Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock
TcC2:							
Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
TcC3:							
Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock droughty	Limitation: slope depth to rock	Limitation: slope depth to rock
ToD:							
Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
Rock outcrop	Severe: slope depth to rock	Slight	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: slope depth to rock	Limitation: slope depth to rock
ToF:							
Talbott	Severe: slope	Severe: hard to pack	Severe: no water	Limitation: deep to water	Limitation: slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
Rock outcrop	---	---	---	---	---	---	---
TrB:							
Tarklin	Severe: seepage	Severe: piping	Severe: no water	Limitation: percs slowly slope	Limitation: slope wetness droughty	Limitation: rooting depth wetness	Limitation: rooting depth droughty
TrC2:							
Tarklin	Severe: seepage slope	Severe: piping	Severe: no water	Limitation: percs slowly slope	Limitation: slope wetness droughty	Limitation: rooting depth slope wetness	Limitation: rooting depth slope droughty
Tt:							
Trace	Severe: seepage	Severe: piping	Severe: no water	Limitation: deep to water	Limitation: erodes easily	Limitation: erodes easily	Limitation: erodes easily
W:							
Water	---	---	---	---	---	---	---

Table 13.--Water Management--continued

Map symbol and soil name	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
WaC2:							
Waynesboro	Severe: slope	Severe: hard to pack piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
WaD2:							
Waynesboro	Severe: slope	Severe: hard to pack piping	Severe: no water	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope

Table 14.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
ArA:												
Armour----------	0-20	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	90-100	85-100	80-95	25-35	5-10
	20-62	Silty clay loam, silt loam	CL	A-6, A-4	0	0	95-100	90-100	85-100	85-100	28-40	8-18
ArB:												
Armour----------	0-19	Silt loam	ML, CL-ML, CL	A-4	0	0	90-100	80-100	75-95	70-90	25-35	5-10
	19-55	Silt loam, silty clay loam	CL	A-6, A-4	0	0	90-100	80-100	75-95	70-95	30-40	8-18
	55-83	Clay, silty clay, silty clay loam	MH, GM, GC, ML	A-4, A-6, A-7	---	0-3	60-100	50-95	45-90	40-85	35-53	9-23
At:												
Arrington-------	0-26	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	90-100	85-95	75-95	25-40	4-15
	26-49	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	90-100	85-100	75-95	25-40	4-15
	49-61	Silty clay loam, clay loam, silt loam	CL, MH, ML	A-6, A-7, A-4	0	0	85-100	75-100	65-95	55-95	28-55	8-25
	61-76	Very gravelly loam, gravelly clay loam	GC, GC-GM	A-6, A-4, A-2	0	0-8	60-80	55-75	45-65	30-55	20-40	3-18
BaC:												
Barfield--------	0-10	Silty clay loam	CL, MH, CH	A-6, A-7	0-5	0-10	90-100	85-95	80-90	75-85	35-65	12-35
	10-16	Clay, silty clay, flaggy clay	CH, CL, MH	A-6, A-7	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	16-20	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Talbott---------	0-6	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	6-29	Clay, silty clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	29-32	Clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	32-34	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BeC2:												
Bewleyville-----	0-8	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	20-30	2-7
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	85-100	30-45	11-22
	22-80	Clay loam, silty clay loam, clay	CH, CL, MH, ML	A-6, A-7	---	0-5	75-100	75-100	70-95	60-95	35-65	12-32
BeD2:												
Bewleyville-----	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	95-100	85-100	20-30	2-7
	6-25	Silty clay loam, silt loam	CL	A-7, A-6	0	0	95-100	95-100	90-100	85-100	30-45	11-22
	25-80	Clay loam, clay, silty clay loam	CH, CL, ML, MH	A-6, A-7	---	0-5	75-100	75-100	70-95	60-95	35-65	12-32
BrB:												
Bradyville------	0-10	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	10-17	Silty clay loam	CL	A-6, A-7	0	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	17-53	Clay	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	53-57	Clay	MH, CH	A-7	0	0-10	80-100	75-100	65-90	60-85	52-70	26-40
	57-61	Unweathered bedrock			---	---	---	---	---	---	---	---
BrC2:												
Bradyville------	0-6	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0-5	80-100	75-100	70-95	65-90	15-35	3-15
	6-13	Silty clay loam	CL	A-7, A-6	0	0-5	80-100	75-100	70-90	65-90	32-45	12-22
	13-45	Clay	CH, MH	A-7	0	0-5	80-100	75-100	65-90	60-85	52-70	26-40
	45-48	Clay	CH, MH	A-7	0	0-10	80-100	75-100	65-90	60-85	52-70	26-40
	48-52	Unweathered bedrock			---	---	---	---	---	---	---	---
CaB:												
Capshaw---------	0-8	Silt loam	ML, CL, CL-ML	A-4	0	0	90-100	85-100	80-95	75-85	18-30	3-10
	8-17	Silty clay loam	ML, CL	A-6, A-7	0	0	90-100	85-100	80-95	75-85	30-45	11-20
	17-52	Clay, silty clay, silty clay loam	CH, CL, MH	A-7	0	0	90-100	85-100	80-95	75-90	41-68	18-36
	52-70	Clay	CH, CL, MH	A-7	---	0-3	85-100	80-100	75-95	70-90	41-68	18-36

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ChC2:												
Christian-------	0-7	Silt loam	SC-SM, CL-ML, ML, SM	A-4	---	0-5	85-100	85-100	70-95	40-85	0-30	NP-7
	7-11	Silty clay loam, gravelly silty clay loam	GC, ML, SC, CL	A-6, A-4	---	0-10	70-100	50-100	40-100	36-95	20-40	2-20
	11-60	Gravelly clay, clay	CH, CL, GC, SC	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42
ChC3:												
Christian-------	0-3	Silty clay loam	CL, CL-ML, ML	A-4, A-6	---	0-5	85-100	85-100	85-100	70-95	20-40	2-20
	3-33	Gravelly clay, clay	CL, GC, SC, CH	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42
	33-60	Clay, gravelly clay	CH, GC, SC, CL	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42
ChD2:												
Christian-------	0-5	Silt loam	ML, SC-SM, SM, CL-ML	A-4	---	0-5	85-100	85-100	70-95	40-85	0-30	NP-7
	5-14	Silty clay loam, gravelly silty clay loam	ML, SC, CL, GC	A-6, A-4	---	0-10	70-100	50-100	40-100	36-95	20-40	2-20
	14-75	Clay, gravelly clay, clay loam	CH, GC, SC, CL	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42
CrC2:												
Christian-------	0-6	Gravelly silt loam	GC, GM, ML, CL	A-2-4, A-2-6, A-4, A-6	---	0-2	55-80	35-75	30-60	25-60	0-30	NP-12
	6-11	Gravelly silty clay loam, clay loam	CL, GC, SC, ML	A-4, A-6	---	0-10	70-100	50-100	40-100	36-95	20-40	2-20
	11-62	Gravelly clay, clay, clay loam	CL, GC, SC, CH	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42
CrD2:												
Christian-------	0-6	Gravelly silt loam	GC, CL, GM, ML	A-2-4, A-2-6, A-4, A-6	---	0-2	55-80	35-75	30-60	25-60	0-30	NP-12
	6-12	Gravelly silty clay loam, clay loam	CL, GC, ML, SC	A-4, A-6	---	0-10	70-100	50-100	40-100	36-95	20-40	2-20
	12-60	Gravelly clay, clay, clay loam	SC, CL, GC, CH	A-7	---	0-10	70-100	50-100	45-100	40-90	41-70	20-42

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
DeC:												
Dellrose--------	0-14	Gravelly silt loam	SC, GC, CL-ML, CL	A-6, A-4	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	14-62	Gravelly silty clay loam, gravelly silt loam	SC, ML, GC, CL	A-7, A-6, A-4	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DeD2:												
Dellrose--------	0-16	Gravelly silt loam	CL, SC, GC, CL-ML	A-6, A-4	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	16-84	Gravelly silty clay loam, gravelly silt loam	GC, CL, ML, SC	A-6, A-4, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DeE2:												
Dellrose--------	0-16	Gravelly silt loam	CL, CL-ML, GC, SC	A-6, A-4	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	16-84	Gravelly silty clay loam, gravelly silt loam	SC, GC, ML, CL	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DeF2:												
Dellrose--------	0-16	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	16-84	Gravelly silty clay loam, gravelly silt loam	ML, CL, GC, SC	A-4, A-6, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
DhD2:												
Dellrose--------	0-6	Gravelly silt loam	CL, CL-ML, GC, SC	A-6, A-4	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	6-16	Gravelly silt loam, gravelly silty clay loam	GC, SC, ML, CL	A-6, A-4, A-7	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	16-62	Clay	MH, CH	A-7	0	0-10	80-100	80-100	75-90	70-85	50-70	20-35

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
DhE2:												
Dellrose--------	0-11	Gravelly silt loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-10	55-90	55-85	45-75	40-70	20-35	5-15
	11-20	Gravelly silty clay loam, gravelly silt loam	CL, GC, ML, SC	A-7, A-6, A-4	0	0-15	60-90	55-90	50-75	40-70	30-45	8-18
	20-80	Clay	MH, CH	A-7	0	0-10	80-100	80-100	75-90	70-85	50-70	20-35
DkB:												
Dickson---------	0-8	Silt loam	ML, CL-ML, CL	A-6, A-4	0	0	100	95-100	90-100	75-95	20-38	3-17
	8-24	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	95-100	95-100	85-95	25-38	5-17
	24-43	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6, A-7	0	0	95-100	90-100	85-100	80-95	25-42	7-20
	43-73	Clay, gravelly silty clay loam, gravelly clay, clay loam	CL, GC, ML, MH	A-6, A-7	0	0-20	70-100	60-100	55-100	45-95	35-65	12-30
DkC2:												
Dickson---------	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	95-100	90-100	75-95	20-38	3-17
	9-20	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	85-95	25-38	5-17
	20-38	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	95-100	90-100	85-100	80-95	25-42	7-20
	38-60	Clay, gravelly silty clay loam, gravelly clay, clay loam, silty clay loam	MH, ML, CL, GC	A-6, A-7	0	0-20	70-100	60-100	55-100	45-95	35-65	12-30
Ea:												
Eagleville------	0-14	Silty clay loam	CH, CL	A-7, A-6	0	0	80-100	75-100	70-100	65-95	35-55	15-28
	14-22	Clay, silty clay	CH	A-7	0	0	80-100	75-100	70-100	65-95	52-70	28-43
	22-26	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Eg:												
Egam----------	0-9	Silty clay loam	CL, CL-ML, ML	A-7, A-6, A-4	0	0	95-100	95-100	85-100	75-95	21-45	4-20
	9-50	Clay, silty clay, silty clay loam	CH, CL	A-7, A-6	0	0	95-100	95-100	90-100	85-95	38-60	15-30
	50-66	Very gravelly clay	CH, CL, GM, GC	A-6, A-7, A-4	0	0-5	45-75	40-65	45-60	25-60	25-60	8-30
	66-79	Clay, clay loam	ML, CL, CH	A-4, A-6, A-7	0	0	95-100	95-100	80-100	70-95	25-60	8-30
EtC:												
Etowah----------	0-11	Gravelly silt loam	ML, CL-ML, CL	A-4, A-6	---	0-5	70-80	65-75	60-70	50-65	20-35	5-12
	11-40	Silt loam, silty clay loam, clay loam	CL	A-6	0	0	80-100	75-100	70-95	65-85	25-35	10-15
	40-60	Silty clay loam, clay loam, clay	CL, MH, ML	A-7, A-6	0	0	80-100	75-100	70-95	65-85	39-60	15-25
EtD2:												
Etowah----------	0-11	Gravelly silt loam	CL, CL-ML, ML	A-6, A-4	---	0-5	70-80	65-75	60-70	50-65	20-35	5-12
	11-40	Silt loam, silty clay loam, clay loam	CL	A-6	0	0	80-100	75-100	70-95	65-85	25-35	10-15
	40-80	Clay loam, clay	CL, MH, ML	A-6, A-7	0	0	80-100	75-100	70-95	65-85	39-60	15-25
EtE2:												
Etowah----------	0-11	Gravelly silt loam	CL, CL-ML, ML	A-6, A-4	---	0-5	70-80	65-75	60-70	50-65	20-35	5-12
	11-40	Silt loam, silty clay loam, clay loam	CL	A-6	0	0	80-100	75-100	70-95	65-85	25-35	10-15
	40-80	Clay, clay loam	CL, MH, ML	A-7, A-6	0	0	80-100	75-100	70-95	65-85	39-60	15-25

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
GpE:												
Gilpin----------	0-2	Stony loam	CL-ML, GC, SC, CL	A-6, A-4, A-2	---	10-40	50-90	45-85	35-75	30-70	20-40	4-15
	2-25	Channery loam, channery silt loam, channery silty clay loam	CL, CL-ML, GC-GM, SC	A-2, A-4, A-5	---	0-30	50-95	45-90	35-85	30-80	20-40	4-15
	25-31	Very channery silty clay loam, very channery silt loam	GC-GM, GC	A-5, A-2, A-4, A-1	---	0-35	25-55	20-50	15-45	15-40	20-40	4-15
	31-45	Weathered bedrock			---	---	---	---	---	---	---	---
GrE2:												
Gladdice--------	0-7	Silty clay loam	CL-ML, CL	A-6, A-7, A-4	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	7-29	Clay, silty clay	CH, MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	29-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
GrF2:												
Gladdice--------	0-7	Silty clay loam	CL-ML, CL	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	7-29	Clay, silty clay	MH, CH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	29-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
GvC:												
Gladeville------	0-4	Flaggy silty clay loam, very flaggy clay	CH, CL, GC	A-2, A-6, A-7	0-5	5-20	40-65	30-55	25-55	20-55	38-55	20-34
	4-8	Flaggy silty clay loam, very flaggy clay	GC, CL, CH	A-7, A-6, A-2	0-5	5-20	40-65	30-55	25-55	20-55	38-55	20-34
	8-12	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
Gw:												
Guthrie---------	0-8	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	85-95	18-28	2-7
	8-20	Silt loam, silty clay loam	ML, CL-ML, CL	A-6, A-4	0	0	100	100	90-100	85-95	23-39	5-15
	20-53	Silt loam, silty clay loam	CL-ML, CL	A-7, A-4, A-6	0	0	90-100	85-100	80-100	70-95	20-42	5-20
	53-61	Gravelly silty clay loam, silt loam	CL-ML, CL	A-6, A-7, A-4	0	0-5	75-100	65-100	75-100	66-95	20-50	4-25
HaC2:												
Hampshire-------	0-6	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	20-40	3-20
	6-40	Clay, silty clay loam, silty clay	CL, MH, CH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	40-50	Very channery loam, channery clay loam, channery silty clay loam	CL, GC, GM, SC	A-7, A-6, A-2	0-5	10-35	55-75	50-75	40-70	30-60	30-48	11-25
	50-65	Weathered bedrock			---	---	---	---	---	---	---	---
HaD2:												
Hampshire-------	0-6	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	95-100	95-100	90-100	80-90	20-40	3-20
	6-40	Clay, silty clay loam, silty clay	CL, MH, CH	A-7	0	0-3	80-100	75-100	65-95	55-85	45-65	21-38
	40-50	Very channery loam, channery clay loam, channery silty clay loam	SC, CL, GM, GC	A-7, A-6, A-2	0-5	10-35	55-75	50-75	40-70	30-60	30-48	11-25
	50-65	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HbD:												
Hawthorne-------	0-8	Gravelly silt loam, very gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	8-25	Very channery silt loam, extremely channery silt loam, very channery silty clay loam	CL-ML, GC-GM, GM, ML	A-6, A-4, A-2	0-5	5-20	55-75	45-70	40-65	30-60	20-35	3-12
	25-30	Weathered bedrock			---	---	---	---	---	---	---	---
HbF:												
Hawthorne-------	0-8	Gravelly silt loam, very gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-10	60-80	55-75	50-70	40-65	18-30	3-9
	8-25	Very channery silt loam, extremely channery silt loam, very channery silty clay loam	CL-ML, ML, GM, GC-GM	A-6, A-4, A-2	0-5	0-15	40-75	20-65	20-65	20-60	20-35	3-12
	25-30	Weathered bedrock			---	---	---	---	---	---	---	---
InC2:												
Inman----------	0-5	Flaggy silty clay loam	CL	A-7, A-6	---	15-35	95-100	90-100	85-95	70-90	28-45	10-20
	5-25	Flaggy clay, flaggy silty clay	CL, CH, MH	A-7, A-6	---	15-35	95-100	90-100	85-95	75-95	38-60	16-30
	25-29	Weathered bedrock			---	---	---	---	---	---	---	---
InD2:												
Inman----------	0-5	Flaggy silty clay loam	CL	A-6, A-7	---	15-35	95-100	90-100	85-95	70-90	28-45	10-20
	5-25	Flaggy clay, flaggy silty clay	MH, CL, CH	A-6, A-7	---	15-35	95-100	90-100	85-95	75-95	38-60	16-30
	25-29	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
InE2:												
Inman----------	0-7	Flaggy silty clay loam	CL	A-7, A-6	---	15-35	95-100	90-100	85-95	70-90	28-45	10-20
	7-24	Flaggy clay, flaggy silty clay	MH, CL, CH	A-7, A-6	---	15-35	95-100	90-100	85-95	75-95	38-60	16-30
	24-29	Weathered bedrock			---	---	---	---	---	---	---	---
InE3:												
Inman----------	0-3	Flaggy clay	MH, CL, CH	A-7, A-6	---	15-35	95-100	90-100	85-95	75-95	38-60	16-30
	3-16	Flaggy clay, flaggy silty clay	MH, CH, CL	A-7, A-6	---	15-35	95-100	90-100	85-95	75-95	38-60	16-30
	16-34	Weathered bedrock			---	---	---	---	---	---	---	---
JNF:												
Jefferson-------	0-7	Stony loam	ML, GM, CL, SM	A-4	5-25	5-20	65-90	60-90	50-80	40-60	25-35	2-10
	7-36	Cobbly loam, cobbly clay loam	CL, SC, ML, SM	A-4, A-6, A-2	---	5-20	75-90	70-90	50-80	30-70	15-35	2-15
	36-80	Very stony clay loam, very cobbly loam, very cobbly clay loam	SM, GC-GM, GM, ML	A-4, A-2, A-1	5-25	5-25	55-75	50-75	35-70	20-60	20-35	2-10
Nella----------	0-4	Stony loam	SC, CL, ML, SM	A-4	5-25	10-30	90-100	85-90	65-75	36-55	0-30	NP-8
	4-24	Cobbly loam, stony clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-10	0-20	75-95	60-90	45-70	30-60	25-40	6-20
	24-80	Very stony clay loam, cobbly clay loam	CL, SM, ML, SC	A-4, A-6, A-7	5-25	0-25	85-95	75-90	65-80	40-65	30-55	8-27

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
Le:												
Lee----------	0-16	Silt loam	CL-ML, GC-GM, GM, ML	A-4	---	0-3	65-85	60-80	50-70	40-70	20-35	3-10
	16-32	Gravelly silt loam, gravelly loam	ML, CL-ML, GC-GM, GM	A-4	---	0-10	60-75	55-75	45-70	36-65	20-35	3-10
	32-65	Very gravelly silt loam, very gravelly loam	GM, CL-ML, GC-GM, SC-SM	A-4, A-2, A-1	---	0-15	35-75	30-75	25-70	20-65	20-35	3-10
Ln:												
Lindell---------	0-22	Silt loam	CL-ML, CL, ML	A-4	0	0	90-100	75-100	65-90	55-80	18-30	3-10
	22-65	Clay loam, gravelly clay loam, silty clay loam	CL, CL-ML	A-4, A-6	---	0-2	90-100	75-95	65-90	55-80	23-39	6-18
Lo:												
Lobelville------	0-6	Silt loam	ML, CL, CL-ML	A-4	0	0-2	85-100	75-95	70-95	50-85	0-30	NP-10
	6-22	Silt loam, loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0-2	85-100	75-95	70-95	50-85	22-35	3-12
	22-33	Gravelly loam, gravelly silt loam, gravelly silty clay loam	ML, CL-ML, GC-GM, GM	A-4, A-6	0	0-3	70-90	60-80	55-80	40-75	22-35	3-12
	33-60	Very gravelly loam, extremely gravelly clay loam, extremely gravelly sandy loam	GC-GM, GM, GC	A-1, A-2, A-4	0	0-10	30-65	15-50	15-45	10-40	0-30	NP-10

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Lv:												
Lobelville------	0-4	Gravelly silt loam	CL-ML, GC-GM, GM, ML	A-4	0	0-5	65-85	55-75	45-70	35-65	0-30	NP-10
	4-31	Gravelly silt loam, gravelly loam, gravelly silty clay loam	ML, CL-ML, GC-GM, GM	A-4, A-6	0	0-5	65-85	55-75	45-70	35-65	22-35	3-12
	31-62	Extremely gravelly loam, very gravelly loam, extremely gravelly sandy loam	GC, GC-GM, GM	A-2, A-1, A-4	0	0-15	30-65	15-50	15-45	10-40	0-30	NP-10
LwC:												
Lonewood--------	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	90-100	85-100	75-90	18-26	3-9
	7-33	Silt loam, loam, silty clay loam	CL	A-6, A-4	0	0	100	90-100	85-95	70-90	25-39	9-18
	33-52	Clay loam, loam, silty clay loam	CL	A-7, A-6	0	0	95-100	85-100	75-90	65-85	29-48	10-23
	52-56	Weathered bedrock			---	---	---	---	---	---	---	---
MmC2:												
Mimosa----------	0-7	Silty clay loam	CL, ML	A-4, A-7, A-6	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-47	Clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	47-51	Unweathered bedrock			---	---	---	---	---	---	---	---
MmD2:												
Mimosa----------	0-7	Silty clay loam	CL, ML	A-7, A-6, A-4	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-47	Clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	47-51	Unweathered bedrock			---	---	---	---	---	---	---	---
MrC:												
Mimosa----------	0-7	Silty clay loam	ML, CL	A-6, A-7, A-4	0	0	80-100	75-100	65-95	60-90	25-45	7-20
	7-47	Clay	CH, MH	A-7	0	0	95-100	90-100	85-95	80-95	51-65	25-35
	47-51	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MsB:												
Monongahela-----	0-9	Silt loam	SC-SM, SM, ML, CL-ML	A-4	0	0-5	90-100	85-100	75-100	45-90	20-35	1-10
	9-24	Silt loam, loam	CL, CL-ML, ML	A-6, A-4	0	0-15	90-100	80-100	75-100	70-90	20-40	5-15
	24-58	Loam, clay loam, silt loam	CL, ML, SM, SC	A-4, A-6	0	0-10	80-100	60-100	55-95	45-95	20-40	3-15
	58-74	Loam, clay loam, gravelly sandy loam	SC, SM, CL, ML	A-4, A-6	0	10-20	75-100	60-90	60-85	40-85	20-40	1-15
MtB:												
Mountview-------	0-8	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
	8-32	Silt loam, silty clay loam	CL	A-7, A-6	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	32-75	Clay, silty clay, silty clay loam	CL, ML, MH, CH	A-7, A-6	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
MtC2:												
Mountview-------	0-5	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	95-100	80-96	20-30	2-7
	5-24	Silt loam, silty clay loam	CL	A-7, A-6	0	0	95-100	95-100	90-100	80-96	30-43	10-23
	24-72	Clay, silty clay loam, silty clay	CH, CL, MH, ML	A-7, A-6	---	0-20	75-100	65-100	60-98	50-96	35-65	11-32
Oc:												
Ocana----------	0-7	Gravelly silt loam	CL, GM, SM, CL-ML	A-6, A-4	0	0-8	65-80	60-75	50-70	36-65	20-35	3-12
	7-66	Gravelly silt loam, gravelly loam, gravelly clay loam	GC-GM, GM, CL, GC	A-6, A-4, A-2	0	0-10	60-80	55-75	45-65	30-55	20-40	3-18

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
On:												
Ocana----------	0-8	Gravelly silt loam	GM, SM, CL-ML, CL	A-6, A-4	0	0-8	65-80	60-75	50-70	36-65	20-35	3-12
	8-45	Gravelly silt loam, gravelly loam, gravelly clay loam	CL, GC-GM, GM, GC	A-6, A-4, A-2	0	0-8	60-80	55-75	45-65	30-55	20-40	3-18
	45-72	Very gravelly clay loam, gravelly loam, gravelly silt loam, gravelly clay loam	GC, GC-GM, GM, CL	A-6, A-4, A-2	0	5-15	60-80	55-75	45-65	30-55	20-40	3-18
Pt:												
Pits, quarry----	---	---	---	---	---	---	---	---	---	---	---	---
RoC:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Barfield--------	0-10	Silty clay loam	MH, CL, CH	A-7, A-6	0-5	0-5	90-100	85-95	80-90	75-85	35-65	12-35
	10-16	Clay, silty clay, flaggy clay	CL, MH, CH	A-7, A-6	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	16-18	Unweathered bedrock			---	---	---	---	---	---	---	---
Ashwood---------	0-12	Silty clay loam	CL, CL-ML	A-7, A-6, A-4	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	12-36	Clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
RoE2:												
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Barfield--------	0-6	Silty clay loam	MH, CH, CL	A-7, A-6	0-5	0-5	90-100	85-95	80-90	75-85	35-65	12-35
	6-16	Clay, silty clay, flaggy clay	MH, CL, CH	A-7, A-6	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	16-18	Unweathered bedrock			---	---	---	---	---	---	---	---
Ashwood---------	0-11	Silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	11-35	Clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RoF:												
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
Barfield--------	0-10	Silty clay loam	CL, MH, CH	A-7, A-6	0-5	0-5	90-100	85-95	80-90	75-85	35-65	12-35
	10-16	Clay, silty clay, flaggy clay	CL, MH, CH	A-7, A-6	0-5	0-15	70-100	65-90	60-85	55-80	35-70	14-40
	16-18	Unweathered bedrock			---	---	---	---	---	---	---	---
Ashwood---------	0-12	Silty clay loam	CL, CL-ML	A-7, A-6, A-4	0	0-15	95-100	90-100	85-100	70-95	25-49	6-22
	12-36	Clay	MH	A-7	0	0-15	95-100	90-100	85-100	75-95	51-75	20-40
	36-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Sa:												
Sango----------	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	75-98	18-30	2-9
	9-24	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	95-100	85-95	23-38	5-16
	24-48	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6, A-7	0	0	90-100	85-100	80-100	75-95	23-42	5-20
	48-62	Very gravelly clay, gravelly clay, clay, silty clay loam	MH, CH, CL, GC	A-6, A-7	---	0-25	60-100	45-100	45-90	35-85	35-65	12-30
SgC:												
Sugargrove------	0-7	Gravelly silt loam	ML, CL, GM, CL-ML	A-4	0	0-10	65-85	55-80	45-75	40-75	25-35	4-10
	7-48	Gravelly silt loam, gravelly silty clay loam, channery silty clay loam	GC-GM, CL-ML, CL	A-4, A-6	0	0-15	65-85	55-80	45-75	40-70	25-40	6-20
	48-54	Weathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
SgD:												
Sugargrove------	0-7	Gravelly silt loam	CL, CL-ML, GM, ML	A-4	0	0-10	65-85	55-80	45-75	40-75	25-35	4-10
	7-48	Gravelly silt loam, gravelly silty clay loam, channery silty clay loam	CL-ML, GC-GM, CL	A-6, A-4	0	0-15	65-85	55-80	45-75	40-70	25-40	6-20
	48-54	Weathered bedrock			---	---	---	---	---	---	---	---
SkB:												
Sykes----------	0-7	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	85-100	85-100	75-100	65-90	25-35	5-12
	7-20	Silt loam, silty clay loam	CL	A-7, A-6, A-4	0	0	85-100	85-100	80-100	70-95	30-42	8-18
	20-38	Silty clay loam	CL, CH, MH	A-7	0	0	85-100	85-100	80-100	70-95	41-65	18-35
	38-61	Clay	CH, CL, MH	A-7	0	0-5	85-100	85-100	80-100	70-95	45-70	20-38
SkC2:												
Sykes----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	85-100	85-100	75-100	65-90	25-35	5-12
	9-26	Silt loam, silty clay loam	CL	A-7, A-6, A-4	0	0	85-100	85-100	80-100	70-95	30-42	8-18
	26-63	Clay	CL, MH, CH	A-7	0	0	85-100	85-100	80-100	70-95	41-65	18-35
	63-67	Unweathered bedrock			---	---	---	---	---	---	---	---
Ta:												
Taft----------	0-7	Silt loam	ML, CL-ML	A-4	0	0	100	95-100	90-100	75-95	18-30	2-10
	7-24	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	95-100	85-95	23-38	5-16
	24-56	Silt loam	CL, CL-ML	A-6, A-7, A-4	0	0	95-100	90-100	85-100	80-95	23-42	5-20
	56-79	Silty clay loam, clay, gravelly silty clay loam	CL, GC, ML	A-7, A-6	0	0-10	65-100	55-100	45-90	36-85	35-48	12-22
TbB2:												
Talbott---------	0-7	Silt loam	CL	A-6, A-4	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	7-35	Clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
TbC2:												
Talbott---------	0-6	Silty clay loam	CH, CL	A-7, A-6	0	0-5	95-100	90-100	85-95	80-95	35-60	12-32
	6-30	Clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	30-34	Unweathered bedrock			---	---	---	---	---	---	---	---
TcC2:												
Talbott---------	0-5	Silt loam	CL	A-6, A-4	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	5-29	Clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	29-33	Unweathered bedrock			---	---	---	---	---	---	---	---
TcC3:												
Talbott---------	0-3	Clay	CL, CH	A-6, A-7	0	0-5	95-100	90-100	85-95	80-95	35-60	12-32
	3-20	Clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	20-24	Unweathered bedrock			---	---	---	---	---	---	---	---
ToD:												
Talbott---------	0-8	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	8-35	Clay	CH, CL	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	35-39	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
ToF:												
Talbott---------	0-10	Silt loam	CL	A-6, A-4	0	0-5	95-100	90-100	85-95	75-95	25-40	8-16
	10-34	Clay	CL, CH	A-7	0	0-10	95-100	90-100	85-95	80-95	41-80	20-45
	34-38	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
TrB:												
Tarklin---------	0-8	Gravelly silt loam	SM, ML, GM, CL	A-4	---	0-10	60-80	55-75	45-75	40-70	25-35	2-10
	8-22	Gravelly silt loam, gravelly silty clay loam	ML, GM, GC, CL	A-7-6, A-6, A-4	---	0-10	60-80	55-75	45-75	40-70	25-45	2-20
	22-46	Gravelly silt loam, gravelly silty clay loam	ML, GM, GC, CL	A-4, A-2, A-6, A-7-6	---	0-10	60-80	45-75	40-75	30-70	25-45	2-20
	46-60	Very gravelly silt loam, very gravelly silty clay loam	GM, GC	A-2-6, A-2-5	---	0-15	40-60	30-50	25-45	20-40	25-45	2-20
TrC2:												
Tarklin---------	0-6	Gravelly silt loam	ML, GM, CL, SM	A-4	---	0-10	60-80	55-75	45-75	40-70	25-35	2-10
	6-20	Gravelly silt loam, gravelly silty clay loam	GM, GC, CL, ML	A-4, A-7-6, A-6	---	0-10	60-80	55-75	45-75	40-70	25-45	2-20
	20-54	Gravelly silt loam, gravelly silty clay loam	CL, GC, GM, ML	A-2, A-4, A-6, A-7-6	---	0-10	60-80	45-75	40-75	30-70	25-45	2-20
	54-70	Very gravelly loam, gravelly silt loam	GC, GM	A-2-5, A-2-6	---	0-15	40-60	30-50	25-45	20-40	25-45	2-20
Tt:												
Trace----------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0	90-100	85-100	75-95	70-90	18-30	NP-10
	9-32	Silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	70-95	20-40	5-15
	32-56	Very gravelly loam, very gravelly sandy loam	CL, GC, GC-GM	A-6, A-4, A-2, A-1-b	0	0-10	45-75	40-75	30-65	20-55	15-35	4-13
	56-65	Extremely gravelly sandy loam, extremely gravelly loam	GM, GP-GM, GW-GM	A-1	0	0-20	25-40	10-30	5-25	5-15	0-25	NP-5
W:												
Water----------	---	---	---	---	---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
WaC2:												
Waynesboro------	0-6	Clay loam	SM, ML, CL-ML, CL	A-4	0	0-5	85-100	80-100	70-95	43-70	18-30	2-9
	6-12	Clay loam	CL, SC	A-6, A-4, A-7	0	0-5	90-100	85-100	75-95	45-75	30-41	9-17
	12-72	Clay, clay loam	CL, MH, ML	A-7, A-6, A-4	0	0-5	90-100	80-100	70-98	55-75	35-68	9-32
WaD2:												
Waynesboro------	0-6	Clay loam	CL, CL-ML, ML, SM	A-4	0	0-5	85-100	80-100	70-95	43-70	18-30	2-9
	6-12	Clay loam	CL, SC	A-4, A-6, A-7	0	0-5	90-100	85-100	75-95	45-75	30-41	9-17
	12-72	Clay, clay loam	CL, MH, ML	A-7, A-6, A-4	0	0-5	90-100	80-100	70-98	55-75	35-68	9-32

Table 15.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
ArA:										
Armour	0-20	10-27	1.30-1.45	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	20-62	22-35	1.30-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-1.0	.37	.37	
ArB:										
Armour	0-19	15-27	1.30-1.45	0.60-2.00	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	19-55	22-35	1.30-1.50	0.60-2.00	0.17-0.20	0.0-2.9	0.0-0.5	.37	.37	
	55-83	30-50	1.35-1.55	0.60-2.00	0.10-0.18	3.0-5.9	0.0-0.5	.37	.32	
At:										
Arrington	0-26	15-27	1.30-1.45	0.60-2.00	0.19-0.22	0.0-2.9	2.0-4.0	.37	.37	5
	26-49	15-27	1.30-1.45	0.60-2.00	0.19-0.22	0.0-2.9	0.5-2.0	.37	.37	
	49-61	20-40	1.30-1.45	0.60-2.00	0.17-0.22	0.0-2.9	0.5-2.0	.32	.32	
	61-76	20-32	1.35-1.50	2.00-6.00	0.10-0.17	0.0-2.9	0.5-1.0	.28	.32	
BaC:										
Barfield	0-10	27-45	1.30-1.50	0.06-0.20	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	10-16	40-60	1.30-1.50	0.00-0.20	0.08-0.12	6.0-8.9	1.0-3.0	.17	.20	
	16-20	---	---	0.00-0.00	---	---	---	---	---	
Rock outcrop	---	---	---	---	---	---	---	---	---	-
Talbott	0-6	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	6-29	40-60	1.30-1.50	0.06-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	29-32	40-70	1.30-1.50	0.00-0.06	0.08-0.12	6.1-8.9	0.0-0.5	.24	.24	
	32-34	---	---	0.00-0.00	---	---	---	---	---	
BeC2:										
Bewleyville	0-8	15-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	8-22	22-35	1.35-1.55	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.37	.37	
	22-80	28-40	1.30-1.50	0.60-2.00	0.12-0.17	3.0-5.9	0.0-0.5	.37	.32	
BeD2:										
Bewleyville	0-6	15-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	6-25	22-35	1.35-1.55	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.37	.37	
	25-80	35-50	1.30-1.50	0.60-2.00	0.12-0.17	3.0-5.9	0.0-0.5	.37	.32	
BrB:										
Bradyville	0-10	18-27	1.40-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
	10-17	32-40	1.40-1.55	0.60-2.00	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32	
	17-53	40-60	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	53-57	48-70	1.30-1.50	0.00-0.20	0.10-0.15	6.1-8.9	0.0-0.5	.28	.28	
	57-61	---	---	0.00-0.06	---	---	---	---	---	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
BrC2:										
Bradyville----------	0-6	18-27	1.40-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	3
	6-13	32-40	1.40-1.55	0.60-2.00	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32	
	13-45	40-60	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	0.0-0.5	.28	.28	
	45-48	48-70	1.30-1.50	0.00-0.20	0.10-0.15	6.1-8.9	0.0-0.5	.28	.28	
	48-52	---	---	0.00-0.06	---	---	---	---	---	
CaB:										
Capshaw----------	0-8	15-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.37	.37	3
	8-17	25-40	1.35-1.55	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.37	.37	
	17-52	35-55	1.40-1.55	0.06-0.20	0.12-0.18	3.0-5.9	0.0-0.5	.24	.24	
	52-70	40-55	1.40-1.60	0.00-0.20	0.12-0.16	3.0-5.9	0.0-0.5	.24	.24	
ChC2:										
Christian----------	0-7	12-27	1.20-1.40	0.60-2.00	0.11-0.18	0.0-2.9	1.0-3.0	.37	.37	4
	7-11	25-40	1.20-1.50	0.60-2.00	0.14-0.22	3.0-5.9	---	.28	.32	
	11-60	40-60	1.30-1.60	0.20-0.57	0.10-0.16	3.0-5.9	---	.28	.28	
ChC3:										
Christian----------	0-3	27-40	1.20-1.50	0.60-2.00	0.14-0.22	0.0-2.9	0.5-2.0	.37	.37	4
	3-33	40-60	1.30-1.60	0.60-2.00	0.10-0.16	3.0-5.9	---	.28	.28	
	33-60	40-60	1.30-1.60	0.20-0.57	0.10-0.16	3.0-5.9	---	.28	.28	
ChD2:										
Christian----------	0-5	12-27	1.20-1.40	2.00-6.00	0.11-0.18	0.0-2.9	1.0-3.0	.37	.37	4
	5-14	25-40	1.20-1.50	0.60-2.00	0.14-0.22	3.0-5.9	---	.28	.32	
	14-75	40-60	1.30-1.60	0.20-0.57	0.10-0.16	3.0-5.9	---	.28	.28	
CrC2:										
Christian----------	0-6	10-40	1.20-1.50	0.60-6.00	0.10-0.15	0.0-2.9	1.0-3.0	.20	.32	4
	6-11	25-40	1.20-1.50	0.60-2.00	0.14-0.22	3.0-5.9	---	.28	.32	
	11-62	40-60	1.30-1.60	0.20-0.57	0.10-0.16	3.0-5.9	---	.28	.28	
CrD2:										
Christian----------	0-6	10-40	1.20-1.50	0.60-6.00	0.10-0.15	0.0-2.9	1.0-3.0	.20	.32	4
	6-12	25-40	1.20-1.50	0.60-2.00	0.14-0.22	3.0-5.9	---	.28	.32	
	12-60	40-60	1.30-1.60	0.20-0.57	0.10-0.16	3.0-5.9	---	.28	.28	
DeC:										
Dellrose----------	0-14	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	14-62	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
DeD2:										
Dellrose----------	0-16	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	16-84	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
DeE2:										
Dellrose----------	0-16	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	16-84	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
DeF2:										
Dellrose----------	0-16	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	16-84	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
DhD2:										
Dellrose----------	0-6	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	6-16	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	16-62	40-55	1.30-1.50	0.06-0.57	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
DhE2:										
Dellrose----------	0-11	15-27	1.20-1.40	2.00-6.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.32	5
	11-20	20-35	1.20-1.40	2.00-6.00	0.09-0.16	0.0-2.9	0.0-0.5	.24	.28	
	20-80	40-55	1.30-1.50	0.06-0.57	0.08-0.12	3.0-5.9	0.0-0.5	.24	.24	
DkB:										
Dickson----------	0-8	10-27	1.30-1.50	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	4
	8-24	18-27	1.35-1.55	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	24-43	20-27	1.55-1.75	0.00-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
	43-73	35-50	1.35-1.55	0.06-0.20	0.00-0.02	3.0-5.9	0.0-0.5	.28	.32	
DkC2:										
Dickson----------	0-9	10-27	1.30-1.50	0.60-2.00	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	4
	9-20	18-27	1.35-1.55	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	20-38	20-27	1.55-1.75	0.00-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
	38-60	35-50	1.35-1.55	0.06-0.20	0.00-0.02	3.0-5.9	0.0-0.5	.28	.32	
Ea:										
Eagleville----------	0-14	27-45	1.25-1.40	0.06-0.20	0.12-0.18	6.0-8.9	2.0-5.0	.32	.32	2
	14-22	35-60	1.30-1.50	0.00-0.20	0.10-0.16	6.0-8.9	0.5-1.0	.32	.32	
	22-26	---	---	0.00-0.06	---	---	0.5-1.0	---	---	
Eg:										
Egam----------	0-9	20-35	1.30-1.45	0.20-0.60	0.18-0.22	3.0-5.9	2.0-4.0	.32	.32	5
	9-50	35-50	1.30-1.45	0.20-0.60	0.14-0.20	3.0-5.9	0.0-0.5	.32	.32	
	50-66	40-50	1.30-1.45	0.20-0.60	0.10-0.18	3.0-5.9	0.0-0.5	.28	.28	
	66-79	30-45	1.30-1.45	0.20-0.60	0.12-0.18	3.0-5.9	0.0-0.5	.37	.37	
EtC:										
Etowah----------	0-11	20-30	1.35-1.55	0.60-2.00	0.13-0.18	0.0-2.9	1.0-3.0	.32	.37	5
	11-40	23-35	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
	40-60	32-45	1.40-1.55	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
EtD2:										
Etowah----------	0-11	20-30	1.35-1.55	0.60-2.00	0.13-0.18	0.0-2.9	1.0-3.0	.32	.37	5
	11-40	23-35	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
	40-80	32-45	1.40-1.55	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
EtE2:										
Etowah----------	0-11	20-30	1.35-1.55	0.60-2.00	0.13-0.18	0.0-2.9	1.0-3.0	.32	.37	5
	11-40	23-35	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	
	40-80	32-45	1.40-1.55	0.60-2.00	0.16-0.20	0.0-2.9	0.0-0.5	.32	.32	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
GpE:										
Gilpin	0-2	15-27	1.20-1.40	0.60-2.00	0.08-0.14	0.0-2.9	---	.24	.32	3
	2-25	18-35	1.20-1.50	0.60-2.00	0.12-0.16	0.0-2.9	---	.24	.28	
	25-31	15-35	1.20-1.50	0.60-2.00	0.08-0.12	0.0-2.9	---	.24	.32	
	31-45	---	---	0.06-0.57	---	---	---	---	---	
GrE2:										
Gladdice	0-7	22-40	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	7-29	40-60	1.30-1.45	0.00-0.20	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	29-33	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop	---	---	---	---	---	---	---	---	---	-
GrF2:										
Gladdice	0-7	22-40	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	7-29	40-60	1.30-1.45	0.00-0.20	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24	
	29-33	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop	---	---	---	---	---	---	---	---	---	-
GvC:										
Gladeville	0-4	27-40	1.30-1.50	0.06-0.57	0.05-0.11	3.0-5.9	2.0-4.0	.17	.28	1
	4-8	35-55	1.30-1.50	0.06-0.57	0.05-0.11	3.0-5.9	2.0-4.0	.17	.28	
	8-12	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop	---	---	---	---	---	---	---	---	---	-
Gw:										
Guthrie	0-8	10-25	1.35-1.55	0.60-2.00	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43	4
	8-20	18-30	1.40-1.60	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	20-53	18-32	1.60-1.75	0.00-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
	53-61	18-35	1.60-1.75	0.00-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
HaC2:										
Hampshire	0-6	15-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	4
	6-40	35-50	1.25-1.45	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	40-50	22-40	1.30-1.50	0.60-2.00	0.07-0.12	0.0-2.9	0.0-0.5	.24	.32	
	50-65	---	---	0.00-0.06	---	---	---	---	---	
HaD2:										
Hampshire	0-6	15-27	1.35-1.50	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	4
	6-40	35-50	1.25-1.45	0.20-0.60	0.12-0.16	3.0-5.9	0.0-0.5	.28	.28	
	40-50	22-40	1.30-1.50	0.60-2.00	0.07-0.12	0.0-2.9	0.0-0.5	.24	.32	
	50-65	---	---	0.00-0.06	---	---	---	---	---	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
HbD:										
Hawthorne	0-8	12-25	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	8-25	15-32	1.40-1.50	2.00-6.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	25-30	---	---	0.00-0.06	---	---	---	---	---	
HbF:										
Hawthorne	0-8	12-25	1.40-1.50	2.00-6.00	0.14-0.18	0.0-2.9	1.0-3.0	.20	.37	3
	8-25	15-32	1.40-1.50	2.00-6.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.32	
	25-30	---	---	0.00-0.06	---	---	---	---	---	
InC2:										
Inman	0-5	25-40	1.30-1.45	0.60-2.00	0.08-0.12	3.0-5.9	---	.28	.32	3
	5-25	40-55	1.35-1.55	0.00-0.20	0.06-0.11	3.0-5.9	---	.24	.28	
	25-29	---	---	0.00-0.06	---	---	---	---	---	
InD2:										
Inman	0-5	25-40	1.30-1.45	0.60-2.00	0.08-0.12	3.0-5.9	---	.28	.32	3
	5-25	40-55	1.35-1.55	0.00-0.20	0.06-0.11	3.0-5.9	---	.24	.28	
	25-29	---	---	0.00-0.06	---	---	---	---	---	
InE2:										
Inman	0-7	25-40	1.30-1.45	0.60-2.00	0.08-0.12	3.0-5.9	---	.28	.32	3
	7-24	40-55	1.35-1.55	0.00-0.20	0.06-0.11	3.0-5.9	---	.24	.28	
	24-29	---	---	0.00-0.06	---	---	---	---	---	
InE3:										
Inman	0-3	40-55	1.35-1.55	0.06-0.60	0.06-0.11	3.0-5.9	---	.24	.28	2
	3-16	40-55	1.35-1.55	0.00-0.20	0.06-0.11	3.0-5.9	---	.24	.28	
	16-34	---	---	0.00-0.06	---	---	---	---	---	
JNF:										
Jefferson	0-7	10-25	1.30-1.50	2.00-6.00	0.10-0.16	0.0-2.9	0.5-5.0	.10	.28	5
	7-36	18-34	1.30-1.65	2.00-6.00	0.10-0.16	0.0-2.9	---	.28	.32	
	36-80	15-30	1.30-1.65	2.00-6.00	0.08-0.14	0.0-2.9	---	.17	.24	
Nella	0-4	12-25	1.30-1.45	2.00-6.00	0.08-0.15	0.0-2.9	---	.15	.20	5
	4-24	22-35	1.35-1.55	0.60-2.00	0.07-0.14	0.0-2.9	---	.15	.20	
	24-80	27-40	1.35-1.55	0.60-2.00	0.08-0.15	0.0-2.9	---	.15	.20	
Le:										
Lee	0-16	18-27	1.35-1.50	0.60-2.00	0.12-0.18	0.0-2.9	1.0-3.0	.28	.32	5
	16-32	18-27	1.35-1.50	0.60-2.00	0.09-0.14	0.0-2.9	---	.28	.32	
	32-65	18-27	1.35-1.50	0.60-2.00	0.06-0.12	0.0-2.9	---	.28	.32	
Ln:										
Lindell	0-22	18-32	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5
	22-65	20-35	1.35-1.50	0.60-2.00	0.14-0.17	0.0-2.9	0.5-1.0	.28	.28	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Lo:										
Lobelville----------	0-6	15-27	1.30-1.45	0.60-2.00	0.14-0.19	0.0-2.9	1.0-2.0	.32	.32	4
	6-22	18-32	1.35-1.50	0.60-2.00	0.14-0.19	0.0-2.9	0.5-1.0	.32	.32	
	22-33	18-32	1.35-1.50	0.60-2.00	0.12-0.17	0.0-2.9	0.0-0.5	.28	.32	
	33-60	10-30	1.35-1.55	2.00-6.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.32	
Lv:										
Lobelville----------	0-4	15-27	1.30-1.45	0.60-2.00	0.12-0.18	0.0-2.9	1.0-2.0	.28	.32	5
	4-31	18-32	1.35-1.50	0.60-2.00	0.10-0.16	0.0-2.9	0.5-1.0	.28	.32	
	31-62	10-30	1.35-1.50	2.00-6.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.32	
LwC:										
Lonewood----------	0-7	15-25	1.30-1.40	0.60-2.00	0.18-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	7-33	20-39	1.30-1.45	0.60-2.00	0.16-0.18	0.0-2.9	0.0-0.5	.37	.37	
	33-52	25-40	1.40-1.55	0.60-2.00	0.14-0.17	0.0-2.9	0.0-0.5	.32	.32	
	52-56	---	---	0.00-0.20	---	---	---	---	---	
MmC2:										
Mimosa----------	0-7	27-40	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	7-47	45-60	1.35-1.55	0.00-0.20	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	47-51	---	---	0.00-0.06	---	---	---	---	---	
MmD2:										
Mimosa----------	0-7	27-40	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	7-47	45-60	1.35-1.55	0.00-0.20	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	47-51	---	---	0.00-0.06	---	---	---	---	---	
MrC:										
Mimosa----------	0-7	27-40	1.30-1.50	0.60-2.00	0.12-0.20	0.0-2.9	1.0-3.0	.37	.37	3
	7-47	45-60	1.35-1.55	0.00-0.20	0.10-0.16	6.0-8.9	0.0-0.5	.24	.24	
	47-51	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop----------	---	---	---	---	---	---	---	---	---	-
MsB:										
Monongahela----------	0-9	10-27	1.20-1.40	0.60-2.00	0.18-0.24	0.0-2.9	2.0-4.0	.43	.43	4
	9-24	18-35	1.30-1.50	0.60-2.00	0.14-0.18	0.0-2.9	0.0-0.5	.43	.43	
	24-58	18-35	1.30-1.60	0.00-0.20	0.00-0.10	0.0-2.9	0.0-0.5	.43	.49	
	58-74	10-35	1.20-1.40	0.20-0.60	0.00-0.10	0.0-2.9	0.0-0.5	.37	.43	
MtB:										
Mountview----------	0-8	15-25	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	8-32	20-35	1.40-1.60	0.60-2.00	0.17-0.20	0.0-2.9	0.0-0.5	.43	.43	
	32-75	35-55	1.30-1.50	0.20-0.57	0.10-0.15	3.0-5.9	0.0-0.5	.32	.37	
MtC2:										
Mountview----------	0-5	15-25	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5
	5-24	20-35	1.40-1.60	0.60-2.00	0.17-0.20	0.0-2.9	0.0-0.5	.43	.43	
	24-72	35-55	1.30-1.50	0.20-0.57	0.10-0.15	3.0-5.9	0.0-0.5	.32	.37	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Oc:										
Ocana	0-7	18-27	1.35-1.50	2.00-6.00	0.12-0.18	0.0-2.9	1.0-3.0	.28	.32	5
	7-66	20-32	1.35-1.50	2.00-6.00	0.10-0.17	0.0-2.9	0.5-1.0	.28	.32	
On:										
Ocana	0-8	18-27	1.35-1.50	2.00-6.00	0.12-0.18	0.0-2.9	1.0-3.0	.28	.32	5
	8-45	20-32	1.35-1.50	2.00-6.00	0.10-0.17	0.0-2.9	0.5-1.0	.28	.32	
	45-72	20-40	1.35-1.50	2.00-6.00	0.10-0.17	0.0-2.9	0.5-1.0	.28	.32	
Pt:										
Pits, quarry	---	---	---	---	---	---	---	---	---	-
RoC:										
Rock outcrop	---	---	---	---	---	---	---	---	---	-
Barfield	0-10	35-55	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	10-16	40-60	1.30-1.50	0.00-0.20	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	16-18	---	---	0.00-0.00	---	---	---	---	---	
Ashwood	0-12	22-40	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	12-36	40-60	1.30-1.45	0.00-0.20	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	36-38	---	---	0.00-0.00	---	---	---	---	---	
RoE2:										
Rock outcrop	---	---	---	---	---	---	---	---	---	-
Barfield	0-6	35-55	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	6-16	40-60	1.30-1.50	0.00-0.20	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	16-18	---	---	0.00-0.00	---	---	---	---	---	
Ashwood	0-11	22-40	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	11-35	40-60	1.30-1.45	0.00-0.20	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	35-39	---	---	0.00-0.00	---	---	---	---	---	
RoF:										
Rock outcrop	0-60	---	---	0.06-6.00	---	---	---	---	---	-
Barfield	0-10	35-55	1.30-1.50	0.20-0.60	0.10-0.15	3.0-5.9	2.0-4.0	.24	.24	1
	10-16	40-60	1.30-1.50	0.00-0.20	0.09-0.14	6.0-8.9	1.0-3.0	.17	.20	
	16-18	---	---	0.00-0.00	---	---	---	---	---	
Ashwood	0-12	22-40	1.20-1.40	0.60-2.00	0.14-0.18	3.0-5.9	2.0-5.0	.28	.32	2
	12-36	40-60	1.30-1.45	0.00-0.20	0.12-0.15	6.0-8.9	1.0-2.0	.24	.24	
	36-38	---	---	0.00-0.00	---	---	---	---	---	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
Sa:										
Sango	0-9	10-16	1.35-1.50	0.60-2.00	0.20-0.23	0.0-2.9	1.0-3.0	.43	.43	4
	9-24	13-18	1.35-1.50	0.60-2.00	0.18-0.20	0.0-2.9	---	.43	.43	
	24-48	15-27	1.55-1.75	0.00-0.20	0.00-0.02	0.0-2.9	---	.43	.43	
	48-62	35-55	1.45-1.60	0.20-0.60	0.00-0.02	3.0-5.9	---	.28	.32	
SgC:										
Sugargrove	0-7	10-27	1.20-1.40	0.60-6.00	0.14-0.19	0.0-2.9	1.0-3.0	.28	.37	4
	7-48	18-35	1.30-1.50	0.60-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.28	.32	
	48-54	---	---	0.00-0.20	---	---	---	---	---	
SgD:										
Sugargrove	0-7	10-27	1.20-1.40	0.60-6.00	0.14-0.19	0.0-2.9	1.0-3.0	.28	.37	4
	7-48	18-35	1.30-1.50	0.60-6.00	0.14-0.19	0.0-2.9	0.0-0.5	.28	.32	
	48-54	---	---	0.00-0.20	---	---	---	---	---	
SkB:										
Sykes	0-7	15-27	1.35-1.55	0.60-2.00	0.19-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	7-20	24-35	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37	
	20-38	27-40	1.30-1.50	0.20-0.60	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32	
	38-61	35-60	1.30-1.50	0.06-0.20	0.12-0.16	3.0-5.9	0.0-0.5	.32	.32	
SkC2:										
Sykes	0-9	15-27	1.35-1.55	0.60-2.00	0.19-0.23	0.0-2.9	1.0-3.0	.43	.43	5
	9-26	24-35	1.35-1.55	0.60-2.00	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37	
	26-63	35-60	1.30-1.50	0.06-0.57	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32	
	63-67	---	---	0.00-0.00	---	---	---	---	---	
Ta:										
Taft	0-7	10-25	1.30-1.40	0.60-2.00	0.20-0.22	0.0-2.9	2.0-5.0	.43	.43	4
	7-24	18-27	1.30-1.50	0.60-2.00	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43	
	24-56	15-27	1.50-1.65	0.00-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.43	.43	
	56-79	18-45	1.35-1.60	0.20-0.60	0.01-0.02	0.0-2.9	0.0-0.5	.37	.37	
TbB2:										
Talbott	0-7	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	7-35	40-60	1.30-1.50	0.06-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	35-39	---	---	0.00-0.06	---	---	---	---	---	
TbC2:										
Talbott	0-6	32-50	1.35-1.55	0.60-2.00	0.10-0.16	3.0-5.9	0.5-1.0	.32	.32	2
	6-30	40-60	1.30-1.50	0.00-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	30-34	---	---	0.00-0.06	---	---	---	---	---	
TcC2:										
Talbott	0-5	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	5-29	40-60	1.30-1.50	0.00-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	29-33	---	---	0.00-0.06	---	---	---	---	---	

Table 15.--Physical Properties of the Soils--continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	Pct			
TcC3:										
Talbott----------	0-3	32-50	1.35-1.55	0.20-0.57	0.10-0.16	3.0-5.9	0.5-1.0	.32	.32	1
	3-20	40-60	1.30-1.50	0.00-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	20-24	---	---	0.00-0.06	---	---	---	---	---	
ToD:										
Talbott----------	0-8	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	8-35	40-60	1.30-1.50	0.00-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	35-39	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop----------	---	---	---	---	---	---	---	---	---	-
ToF:										
Talbott----------	0-10	15-27	1.35-1.50	0.60-2.00	0.16-0.20	0.0-2.9	0.5-2.0	.37	.37	2
	10-34	40-60	1.30-1.50	0.00-0.20	0.10-0.14	3.0-5.9	0.0-0.5	.24	.24	
	34-38	---	---	0.00-0.06	---	---	---	---	---	
Rock outcrop----------	---	---	---	---	---	---	---	---	---	-
TrB:										
Tarklin----------	0-8	18-25	1.25-1.45	0.60-6.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.32	3
	8-22	20-34	1.45-1.55	0.60-6.00	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32	
	22-46	20-34	1.45-1.60	0.00-0.06	0.00-0.02	0.0-2.9	0.0-0.5	.28	.32	
	46-60	20-34	1.45-1.55	0.06-0.20	0.00-0.02	0.0-2.9	0.0-0.5	.20	.32	
TrC2:										
Tarklin----------	0-6	18-25	1.25-1.45	0.60-6.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.32	3
	6-20	20-34	1.45-1.55	0.60-6.00	0.13-0.18	0.0-2.9	0.0-0.5	.28	.32	
	20-54	20-34	1.45-1.60	0.00-0.06	0.00-0.02	0.0-2.9	0.0-0.5	.28	.32	
	54-70	20-34	1.45-1.55	0.20-0.57	0.00-0.02	0.0-2.9	0.0-0.5	.20	.32	
Tt:										
Trace----------	0-9	12-22	1.30-1.45	0.60-2.00	0.18-0.23	0.0-2.9	1.0-3.0	.37	.43	4
	9-32	18-27	1.30-1.50	0.60-2.00	0.17-0.21	0.0-2.9	0.0-0.5	.32	.37	
	32-56	12-27	1.40-1.60	1.98-6.00	0.07-0.14	0.0-2.9	0.0-0.5	---	---	
	56-65	5-18	1.40-1.60	6.00-20.00	0.01-0.07	0.0-2.9	0.0-0.5	---	---	
W:										
Water----------	---	---	---	---	---	---	---	---	---	-
WaC2:										
Waynesboro----------	0-6	27-35	1.40-1.55	0.60-2.00	0.15-0.21	0.0-2.9	0.5-2.0	.28	.28	5
	6-12	27-35	1.40-1.55	0.60-2.00	0.14-0.20	0.0-2.9	0.5-2.0	.28	.28	
	12-72	35-50	1.40-1.55	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28	
WaD2:										
Waynesboro----------	0-6	27-35	1.40-1.55	0.60-2.00	0.15-0.21	0.0-2.9	0.5-2.0	.28	.28	5
	6-12	27-35	1.40-1.55	0.60-2.00	0.14-0.20	0.0-2.9	0.5-2.0	.28	.28	
	12-72	35-50	1.40-1.55	0.60-2.00	0.13-0.18	0.0-2.9	0.5-2.0	.28	.28	

Table 16.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
ArA:				
Armour	0-20	8.0-14	---	5.1-6.0
	20-62	12-16	---	5.1-6.0
ArB:				
Armour	0-19	---	---	5.1-6.0
	19-55	---	---	5.1-6.0
	55-83	---	---	5.1-6.0
At:				
Arrington	0-26	---	---	6.1-7.8
	26-49	---	---	6.1-7.8
	49-61	---	---	6.1-7.8
	61-76	---	---	6.1-7.8
BaC:				
Barfield	0-10	---	---	6.1-7.8
	10-16	---	---	6.1-7.8
	16-20	---	---	---
Rock outcrop	---	---	---	---
Talbott	0-6	---	---	5.1-6.5
	6-29	---	---	5.1-6.5
	29-32	---	---	6.1-7.8
	32-34	---	---	---
BeC2:				
Bewleyville	0-8	---	---	4.5-6.5
	8-22	---	---	4.5-6.0
	22-80	---	---	4.5-5.5
BeD2:				
Bewleyville	0-6	---	---	4.5-6.5
	6-25	---	---	4.5-6.0
	25-80	---	---	4.5-5.5
BrB:				
Bradyville	0-10	---	---	5.1-6.5
	10-17	---	---	5.1-6.0
	17-53	---	---	5.1-6.0
	53-57	---	---	5.1-7.8
	57-61	---	---	---
BrC2:				
Bradyville	0-6	---	---	5.1-6.5
	6-13	---	---	5.1-6.0
	13-45	---	---	5.1-6.0
	45-48	---	---	5.1-7.8
	48-52	---	---	---
CaB:				
Capshaw	0-8	---	---	5.1-6.0
	8-17	---	---	5.1-6.0
	17-52	---	---	5.1-6.0
	52-70	---	---	5.6-7.8
ChC2:				
Christian	0-7	---	---	3.6-5.5
	7-11	---	---	3.6-5.5
	11-60	---	---	3.6-5.5

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
ChC3:				
Christian	0-3	---	---	3.6-5.5
	3-33	---	---	3.6-5.5
	33-60	---	---	3.6-5.5
ChD2:				
Christian	0-5	---	---	3.6-5.5
	5-14	---	---	3.6-5.5
	14-75	---	---	3.6-5.5
CrC2:				
Christian	0-6	---	---	3.6-5.5
	6-11	---	---	3.6-5.5
	11-62	---	---	3.6-5.5
CrD2:				
Christian	0-6	---	---	3.6-5.5
	6-12	---	---	3.6-5.5
	12-60	---	---	3.6-5.5
DeC:				
Dellrose	0-14	---	---	4.5-6.0
	14-62	---	---	4.5-6.0
DeD2:				
Dellrose	0-16	---	---	4.5-6.0
	16-84	---	---	4.5-6.0
DeE2:				
Dellrose	0-16	---	---	4.5-6.0
	16-84	---	---	4.5-6.0
DeF2:				
Dellrose	0-16	---	---	4.5-6.0
	16-84	---	---	4.5-6.0
DhD2:				
Dellrose	0-6	---	---	4.5-6.0
	6-16	---	---	4.5-6.0
	16-62	---	---	4.5-6.0
DhE2:				
Dellrose	0-11	---	---	4.5-6.0
	11-20	---	---	4.5-6.0
	20-80	---	---	4.5-6.0
DkB:				
Dickson	0-8	---	---	4.5-5.5
	8-24	---	---	4.5-5.5
	24-43	---	---	4.5-5.5
	43-73	---	---	4.5-5.5
DkC2:				
Dickson	0-9	---	---	4.5-5.5
	9-20	---	---	4.5-5.5
	20-38	---	---	4.5-5.5
	38-60	---	---	4.5-5.5
Ea:				
Eagleville	0-14	---	---	5.6-7.8
	14-22	---	---	5.6-7.8
	22-26	---	---	---
Eg:				
Egam	0-9	10-15	---	5.6-7.3
	9-50	15-25	---	5.6-7.3
	50-66	12-20	---	5.6-8.4
	66-79	12-20	---	5.6-8.4

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
EtC:				
Etowah	0-11	---	---	4.5-5.5
	11-40	---	---	4.5-5.5
	40-60	---	---	4.5-5.5
EtD2:				
Etowah	0-11	---	---	4.5-5.5
	11-40	---	---	4.5-5.5
	40-80	---	---	4.5-5.5
EtE2:				
Etowah	0-11	---	---	4.5-5.5
	11-40	---	---	4.5-5.5
	40-80	---	---	4.5-5.5
GpE:				
Gilpin	0-2	---	---	3.6-5.5
	2-25	---	---	3.6-5.5
	25-31	---	---	3.6-5.5
	31-45	---	---	---
GrE2:				
Gladdice	0-7	---	---	5.6-7.8
	7-29	---	---	5.6-7.8
	29-33	---	---	---
Rock outcrop	---	---	---	---
GrF2:				
Gladdice	0-7	---	---	5.6-7.8
	7-29	---	---	5.6-7.8
	29-33	---	---	---
Rock outcrop	---	---	---	---
GvC:				
Gladeville	0-4	---	---	6.6-8.4
	4-8	---	---	6.6-8.4
	8-12	---	---	---
Rock outcrop	---	---	---	---
Gw:				
Guthrie	0-8	---	---	3.6-5.5
	8-20	---	---	3.6-5.5
	20-53	---	---	3.6-5.5
	53-61	---	---	3.6-5.5
HaC2:				
Hampshire	0-6	---	---	4.5-6.0
	6-40	---	---	4.5-6.0
	40-50	---	---	4.5-6.0
	50-65	---	---	---
HaD2:				
Hampshire	0-6	---	---	4.5-6.0
	6-40	---	---	4.5-6.0
	40-50	---	---	4.5-6.0
	50-65	---	---	---
HbD:				
Hawthorne	0-8	---	---	3.6-5.5
	8-25	---	---	3.6-5.5
	25-30	---	---	---

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
HbF:				
Hawthorne	0-8	---	---	3.6-5.5
	8-25	---	---	3.6-5.5
	25-30	---	---	---
InC2:				
Inman	0-5	---	---	5.6-7.3
	5-25	---	---	5.6-7.3
	25-29	---	---	---
InD2:				
Inman	0-5	---	---	5.6-7.3
	5-25	---	---	5.6-7.3
	25-29	---	---	---
InE2:				
Inman	0-7	---	---	5.6-7.3
	7-24	---	---	5.6-7.3
	24-29	---	---	---
InE3:				
Inman	0-3	---	---	5.6-7.3
	3-16	---	---	5.6-7.3
	16-34	---	---	---
JNF:				
Jefferson	0-7	---	---	4.5-5.5
	7-36	---	---	4.5-5.5
	36-80	---	---	4.5-5.5
Nella	0-4	---	---	4.5-5.5
	4-24	---	---	4.5-5.5
	24-80	---	---	4.5-5.5
Le:				
Lee	0-16	---	---	4.5-6.5
	16-32	---	---	4.5-5.5
	32-65	---	---	4.5-5.5
Ln:				
Lindell	0-22	---	---	5.6-7.3
	22-65	---	---	5.6-7.3
Lo:				
Lobelville	0-6	---	---	4.5-6.0
	6-22	---	---	4.5-6.0
	22-33	---	---	4.5-6.0
	33-60	---	---	4.5-6.0
Lv:				
Lobelville	0-4	---	---	4.5-6.0
	4-31	---	---	4.5-6.0
	31-62	---	---	4.5-6.0
LwC:				
Lonewood	0-7	---	---	4.5-5.5
	7-33	---	---	4.5-5.5
	33-52	---	---	4.5-5.5
	52-56	---	---	---
MmC2:				
Mimosa	0-7	---	9.0-16	4.5-6.0
	7-47	---	15-30	4.5-6.0
	47-51	---	---	---

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
MmD2:				
Mimosa	0-7	---	9.0-16	4.5-6.0
	7-47	---	15-30	4.5-6.0
	47-51	---	---	---
MrC:				
Mimosa	0-7	---	9.0-16	4.5-6.0
	7-47	---	15-30	4.5-6.0
	47-51	---	---	---
Rock outcrop	---	---	---	---
MsB:				
Monongahela	0-9	---	5.0-20	4.5-5.5
	9-24	---	5.0-15	4.5-5.5
	24-58	---	5.0-15	4.5-5.5
	58-74	---	5.0-15	4.5-5.5
MtB:				
Mountview	0-8	---	---	4.5-5.5
	8-32	---	---	4.5-5.5
	32-75	---	---	4.5-5.5
MtC2:				
Mountview	0-5	---	---	4.5-5.5
	5-24	---	---	4.5-5.5
	24-72	---	---	4.5-5.5
Oc:				
Ocana	0-7	---	---	5.6-7.3
	7-66	---	---	5.6-7.3
On:				
Ocana	0-8	---	---	5.6-7.3
	8-45	---	---	5.6-7.3
	45-72	---	---	5.6-7.3
Pt:				
Pits, quarry	---	---	---	---
RoC:				
Rock outcrop	---	---	---	---
Barfield	0-10	---	---	6.1-7.8
	10-16	---	---	6.1-7.8
	16-18	---	---	---
Ashwood	0-12	25-35	---	5.6-7.8
	12-36	35-50	---	5.6-7.8
	36-38	---	---	---
RoE2:				
Rock outcrop	---	---	---	---
Barfield	0-6	---	---	6.1-7.8
	6-16	---	---	6.1-7.8
	16-18	---	---	---
Ashwood	0-11	25-35	---	5.6-7.8
	11-35	35-50	---	5.6-7.8
	35-39	---	---	---
RoF:				
Rock outcrop	0-60	---	---	---

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
RoF:				
Barfield	0-10	---	---	6.1-7.8
	10-16	---	---	6.1-7.8
	16-18	---	---	---
Ashwood	0-12	25-35	---	5.6-7.8
	12-36	35-50	---	5.6-7.8
	36-38	---	---	---
Sa:				
Sango	0-9	---	---	4.5-5.5
	9-24	---	---	4.5-5.5
	24-48	---	---	4.5-5.5
	48-62	---	---	4.5-5.5
SgC:				
Sugargrove	0-7	---	5.0-10	4.5-5.5
	7-48	---	5.0-10	4.5-5.5
	48-54	---	---	---
SgD:				
Sugargrove	0-7	---	5.0-10	4.5-5.5
	7-48	---	5.0-10	4.5-5.5
	48-54	---	---	---
SkB:				
Sykes	0-7	---	---	5.1-6.5
	7-20	---	---	5.1-6.0
	20-38	---	---	5.1-6.0
	38-61	---	---	5.6-7.8
SkC2:				
Sykes	0-9	---	---	5.1-6.5
	9-26	---	---	5.1-6.0
	26-63	---	---	5.1-6.0
	63-67	---	---	---
Ta:				
Taft	0-7	---	---	4.5-5.5
	7-24	---	---	4.5-5.5
	24-56	---	---	4.5-5.5
	56-79	---	---	4.5-5.5
TbB2:				
Talbott	0-7	---	---	5.1-6.5
	7-35	---	---	5.1-6.5
	35-39	---	---	---
TbC2:				
Talbott	0-6	---	---	5.1-6.5
	6-30	---	---	5.1-6.5
	30-34	---	---	---
TcC2:				
Talbott	0-5	---	---	5.1-6.5
	5-29	---	---	5.1-6.5
	29-33	---	---	---
TcC3:				
Talbott	0-3	---	---	5.1-6.5
	3-20	---	---	5.1-6.5
	20-24	---	---	---
ToD:				
Talbott	0-8	---	---	5.1-6.5
	8-35	---	---	5.1-6.5
	35-39	---	---	---
Rock outcrop	---	---	---	---

Table 16.--Chemical Properties of the Soils--continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction
	In	meq/100 g	meq/100 g	pH
ToF:				
Talbott	0-10	---	---	5.1-6.5
	10-34	---	---	5.1-6.5
	34-38	---	---	---
Rock outcrop	---	---	---	---
TrB:				
Tarklin	0-8	---	---	3.6-5.5
	8-22	---	---	3.6-5.5
	22-46	---	---	3.6-5.5
	46-60	---	---	3.6-5.5
TrC2:				
Tarklin	0-6	---	---	3.6-5.5
	6-20	---	---	3.6-5.5
	20-54	---	---	3.6-5.5
	54-70	---	---	3.6-5.5
Tt:				
Trace	0-9	5.0-10	---	5.1-6.0
	9-32	5.0-10	---	5.1-6.0
	32-56	5.0-10	---	5.1-6.0
	56-65	5.0-10	---	5.1-6.0
W:				
Water	---	---	---	---
WaC2:				
Waynesboro	0-6	---	5.0-12	4.5-5.5
	6-12	---	5.0-10	4.5-5.5
	12-72	---	8.0-15	4.5-5.5
WaD2:				
Waynesboro	0-6	---	5.0-12	4.5-5.5
	6-12	---	5.0-10	4.5-5.5
	12-72	---	8.0-15	4.5-5.5

Table 17.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
ArA:									
Armour	B								
		January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare
ArB:									
Armour	B								
		Jan-Dec	---	---	---	---	None	---	None
At:									
Arrington	B								
		January	4.0-6.0	>6.0	---	---	None	Very brief	Occasional
		February	4.0-6.0	>6.0	---	---	None	Very brief	Occasional
		March	4.0-6.0	>6.0	---	---	None	Very brief	Occasional
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	4.0-6.0	>6.0	---	---	None	Very brief	Occasional
BaC:									
Barfield	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
BaC:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
BeC2:									
Bewleyville	B								
		Jan-Dec	---	---	---	---	None	---	None
BeD2:									
Bewleyville	B								
		Jan-Dec	---	---	---	---	None	---	None
BrB:									
Bradyville	C								
		Jan-Dec	---	---	---	---	None	---	None
BrC2:									
Bradyville	C								
		Jan-Dec	---	---	---	---	None	---	None
CaB:									
Capshaw	C								
		January	2.0-3.5	>6.0	---	---	None	---	None
		February	2.0-3.5	>6.0	---	---	None	---	None
		March	2.0-3.5	>6.0	---	---	None	---	None
		December	2.0-3.5	>6.0	---	---	None	---	None
ChC2:									
Christian	C								
		Jan-Dec	---	---	---	---	None	---	None
ChC3:									
Christian	C								
		Jan-Dec	---	---	---	---	None	---	None
ChD2:									
Christian	C								
		Jan-Dec	---	---	---	---	None	---	None
CrC2:									
Christian	C								
		Jan-Dec	---	---	---	---	None	---	None
CrD2:									
Christian	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
DeC:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DeD2:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DeE2:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DeF2:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DhD2:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DhE2:									
Dellrose----------	B								
		Jan-Dec	---	---	---	---	None	---	None
DkB:									
Dickson----------	C								
		January	1.5-2.5	---	---	---	None	---	None
		February	1.5-2.5	---	---	---	None	---	None
		March	1.5-2.5	---	---	---	None	---	None
		April	1.5-2.5	---	---	---	None	---	None
		December	1.5-2.5	---	---	---	None	---	None
DkC2:									
Dickson----------	C								
		January	1.5-2.5	---	---	---	None	---	None
		February	1.5-2.5	---	---	---	None	---	None
		March	1.5-2.5	---	---	---	None	---	None
		April	1.5-2.5	---	---	---	None	---	None
		December	1.5-2.5	---	---	---	None	---	None
Ea:									
Eagleville----------	D								
		January	1.0-1.5	>6.0	---	---	None	Very brief	Occasional
		February	1.0-1.5	>6.0	---	---	None	Very brief	Occasional
		March	1.0-1.5	>6.0	---	---	None	Very brief	Occasional
		December	1.0-1.5	>6.0	---	---	None	Very brief	Occasional

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Eg:									
Egam	C								
		January	2.5-3.5	>6.0	---	---	None	Very brief	Occasional
		February	2.5-3.5	>6.0	---	---	None	Very brief	Occasional
		March	2.5-3.5	>6.0	---	---	None	Very brief	Occasional
		April	---	---	---	---	None	Very brief	Occasional
		December	2.5-3.5	>6.0	---	---	None	Very brief	Occasional
EtC:									
Etowah	B								
		Jan-Dec	---	---	---	---	None	---	None
EtD2:									
Etowah	B								
		Jan-Dec	---	---	---	---	None	---	None
EtE2:									
Etowah	B								
		Jan-Dec	---	---	---	---	None	---	None
GpE:									
Gilpin	C								
		Jan-Dec	---	---	---	---	None	---	None
GrE2:									
Gladdice	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
GrF2:									
Gladdice	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
GvC:									
Gladeville	D								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Gw:									
Guthrie	D								
		January	0.0	>6.0	1.0-3.0	Long	None	---	None
		February	0.0	>6.0	1.0-3.0	Long	None	---	None
		March	0.0	>6.0	1.0-3.0	Long	None	---	None
		April	0.0	>6.0	1.0-3.0	Long	None	---	None
		May	0.0	>6.0	1.0-3.0	Long	None	---	None
		December	0.0	>6.0	1.0-3.0	Long	None	---	None
HaC2:									
Hampshire	C								
		Jan-Dec	---	---	---	---	None	---	None
HaD2:									
Hampshire	C								
		Jan-Dec	---	---	---	---	None	---	None
HbD:									
Hawthorne	B								
		Jan-Dec	---	---	---	---	None	---	None
HbF:									
Hawthorne	B								
		Jan-Dec	---	---	---	---	None	---	None
InC2:									
Inman	C								
		Jan-Dec	---	---	---	---	None	---	None
InD2:									
Inman	C								
		Jan-Dec	---	---	---	---	None	---	None
InE2:									
Inman	C								
		Jan-Dec	---	---	---	---	None	---	None
InE3:									
Inman	C								
		Jan-Dec	---	---	---	---	None	---	None
JNF:									
Jefferson	B								
		Jan-Dec	---	---	---	---	None	---	None
Nella	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Le:									
Lee	D								
		January	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	Very brief	Occasional
		February	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	Very brief	Occasional
		March	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	Very brief	Occasional
		April	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	---	Rare
		May	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	---	Rare
		November	---	---	---	---	Rare	---	Rare
		December	0.5-1.0	>6.0	0.5-3.0	Long	Frequent	Very brief	Occasional
Ln:									
Lindell	C								
		January	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		February	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		March	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		December	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
Lo:									
Lobelville	C								
		January	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		February	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		March	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		April	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
		December	1.7-2.5	>6.0	---	---	None	Very brief	Occasional
Lv:									
Lobelville	C								
		January	1.7-2.5	>6.0	---	---	None	Very brief	Frequent
		February	1.7-2.5	>6.0	---	---	None	Very brief	Frequent
		March	1.7-2.5	>6.0	---	---	None	Very brief	Frequent
		April	1.7-2.5	>6.0	---	---	None	Very brief	Frequent
		May	---	---	---	---	None	Very brief	Occasional
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	1.7-2.5	>6.0	---	---	None	Very brief	Frequent
LwC:									
Lonewood	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
MmC2:									
Mimosa	C								
		Jan-Dec	---	---	---	---	None	---	None
MmD2:									
Mimosa	C								
		Jan-Dec	---	---	---	---	None	---	None
MrC:									
Mimosa	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
MsB:									
Monongahela	C								
		January	1.5-2.5	---	---	---	None	---	None
		February	1.5-2.5	---	---	---	None	---	None
		March	1.5-2.5	---	---	---	None	---	None
		April	1.5-2.5	---	---	---	None	---	None
		December	1.5-2.5	---	---	---	None	---	None
MtB:									
Mountview	B								
		Jan-Dec	---	---	---	---	None	---	None
MtC2:									
Mountview	B								
		Jan-Dec	---	---	---	---	None	---	None
Oc:									
Ocana	B								
		January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare

Table 17.--Water Features--continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
On:									
Ocana	B								
		January	---	---	---	---	None	Very brief	Occasional
		February	---	---	---	---	None	Very brief	Occasional
		March	---	---	---	---	None	Very brief	Occasional
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	Very brief	Occasional
Pt:									
Pits, quarry	---								
		Jan-Dec	---	---	---	---	None	---	None
RoC:									
Rock outcrop	---								
		Jan-Dec	---	---	---	---	None	---	None
Barfield	D								
		Jan-Dec	---	---	---	---	None	---	None
Ashwood	C								
		Jan-Dec	---	---	---	---	None	---	None
RoE2:									
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
Barfield	D								
		Jan-Dec	---	---	---	---	None	---	None
Ashwood	C								
		Jan-Dec	---	---	---	---	None	---	None
RoF:									
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
Barfield	D								
		Jan-Dec	---	---	---	---	None	---	None
Ashwood	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Sa:									
Sango	C								
		January	1.5-2.5	---	---	---	None	---	None
		February	1.5-2.5	---	---	---	None	---	None
		March	1.5-2.5	---	---	---	None	---	None
		April	1.5-2.5	---	---	---	None	---	None
		December	1.5-2.5	---	---	---	None	---	None
SgC:									
Sugargrove	B								
		Jan-Dec	---	---	---	---	None	---	None
SgD:									
Sugargrove	B								
		Jan-Dec	---	---	---	---	None	---	None
SkB:									
Sykes	B								
		Jan-Dec	---	---	---	---	None	---	None
SkC2:									
Sykes	B								
		Jan-Dec	---	---	---	---	None	---	None
Ta:									
Taft	C								
		January	1.0-1.5	---	---	---	None	---	None
		February	1.0-1.5	---	---	---	None	---	None
		March	1.0-1.5	---	---	---	None	---	None
		April	1.0-1.5	---	---	---	None	---	None
		December	1.0-1.5	---	---	---	None	---	None
TbB2:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
TbC2:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
TcC2:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydrologic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
TcC3:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
ToD:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	D								
		Jan-Dec	---	---	---	---	None	---	None
ToF:									
Talbott	C								
		Jan-Dec	---	---	---	---	None	---	None
Rock outcrop	---								
		Jan-Dec	---	---	---	---	None	---	None
TrB:									
Tarklin	C								
		January	1.5-1.8	---	---	---	None	---	None
		February	1.5-1.8	---	---	---	None	---	None
		March	1.5-1.8	---	---	---	None	---	None
		April	1.5-1.8	---	---	---	None	---	None
		December	1.5-1.8	---	---	---	None	---	None
TrC2:									
Tarklin	C								
		January	1.5-1.8	---	---	---	None	---	None
		February	1.5-1.8	---	---	---	None	---	None
		March	1.5-1.8	---	---	---	None	---	None
		April	1.5-1.8	---	---	---	None	---	None
		December	1.5-1.8	---	---	---	None	---	None

Table 17.--Water Features--continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Tt:									
Trace	B								
		January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare
W:									
Water	---	---	---	---	---	---	---	---	---
WaC2:									
Waynesboro	B								
		Jan-Dec	---	---	---	---	None	---	None
WaD2:									
Waynesboro	B								
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
ArA:							
Armour	---	---	---	---	None	Moderate	Moderate
ArB:							
Armour	---	---	---	---	None	Moderate	Moderate
At:							
Arrington	---	---	---	---	None	Low	Low
BaC:							
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
Rock outcrop	Bedrock (lithic)	10-20	---	Indurated	None	---	---
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
BeC2:							
Bewleyville	---	---	---	---	None	Moderate	Moderate
BeD2:							
Bewleyville	---	---	---	---	None	Moderate	Moderate
BrB:							
Bradyville	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
BrC2:							
Bradyville	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
CaB:							
Capshaw	Bedrock (lithic)	40-80	---	Indurated	None	High	Moderate
ChC2:							
Christian	---	---	---	---	None	High	High
ChC3:							
Christian	---	---	---	---	None	High	High
ChD2:							
Christian	---	---	---	---	None	High	High
CrC2:							
Christian	---	---	---	---	None	High	High

Table 18.--Soil Features--continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
CrD2:							
Christian	---	---	---	---	None	High	High
DeC:							
Dellrose	---	---	---	---	None	High	Moderate
DeD2:							
Dellrose	---	---	---	---	None	High	Moderate
DeE2:							
Dellrose	---	---	---	---	None	High	Moderate
DeF2:							
Dellrose	---	---	---	---	None	High	Moderate
DhD2:							
Dellrose	---	---	---	---	None	High	Moderate
DhE2:							
Dellrose	---	---	---	---	None	High	Moderate
DkB:							
Dickson	Fragipan	18-30	---	Noncemented	None	Moderate	Moderate
DkC2:							
Dickson	Fragipan	18-30	---	Noncemented	None	Moderate	Moderate
Ea:							
Eagleville	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Eg:							
Egam	---	---	---	---	None	High	Low
EtC:							
Etowah	---	---	---	---	None	Low	Moderate
EtD2:							
Etowah	---	---	---	---	None	Low	Moderate
EtE2:							
Etowah	---	---	---	---	None	Low	Moderate
GpE:							
Gilpin	Bedrock (paralithic)	20-40	---	Strongly cemented	None	Low	High

Table 18.--Soil Features--continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
GrE2:							
Gladdice	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
GrF2:							
Gladdice	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
GvC:							
Gladeville	Bedrock (lithic)	3-12	---	Indurated	None	High	Low
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
Gw:							
Guthrie	---	---	---	---	None	High	High
HaC2:							
Hampshire	Bedrock (paralithic)	40-60	---	Strongly cemented	None	High	Moderate
HaD2:							
Hampshire	Bedrock (paralithic)	40-60	---	Strongly cemented	None	High	Moderate
HbD:							
Hawthorne	Bedrock (paralithic)	20-36	---	Very strongly cemented	None	Low	High
HbF:							
Hawthorne	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	Low	High
InC2:							
Inman	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	High	Low
InD2:							
Inman	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	High	Low
InE2:							
Inman	Bedrock (paralithic)	20-40	---	Very strongly cemented	None	High	Low

Table 18.--Soil Features--continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
InE3:							
Inman	Bedrock (paralithic)	14-34	---	Very strongly cemented	None	High	Low
JNF:							
Jefferson	---	---	---	---	None	Moderate	High
Nella	---	---	---	---	None	Low	Moderate
Le:							
Lee	---	---	---	---	None	High	High
Ln:							
Lindell	---	---	---	---	None	Moderate	Low
Lo:							
Lobelville	---	---	---	---	None	High	Moderate
Lv:							
Lobelville	---	---	---	---	None	High	Moderate
LwC:							
Lonewood	Bedrock (paralithic)	40-60	---	Strongly cemented	None	Low	Moderate
MmC2:							
Mimosa	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
MmD2:							
Mimosa	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
MrC:							
Mimosa	Bedrock (lithic)	40-60	---	Indurated	None	High	Moderate
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
MsB:							
Monongahela	Fragipan	20-30	---	Noncemented	None	High	High
MtB:							
Mountview	---	---	---	---	None	Moderate	Moderate
MtC2:							
Mountview	---	---	---	---	None	Moderate	Moderate
Oc:							
Ocana	---	---	---	---	None	Low	Low

Table 18.--Soil Features--continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
On:							
Ocana	---	---	---	---	None	Low	Low
Pt:							
Pits, quarry	---	---	---	---	None	---	---
RoC:							
Rock outcrop	Bedrock (lithic)	---	---	Indurated	None	---	---
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
Ashwood	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
RoE2:							
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
Ashwood	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
RoF:							
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
Barfield	Bedrock (lithic)	8-20	---	Indurated	None	High	Low
Ashwood	Bedrock (lithic)	20-40	---	Indurated	None	High	Low
Sa:							
Sango	Fragipan	18-30	---	Noncemented	None	Moderate	High
SgC:							
Sugargrove	Bedrock (paralithic)	20-60	---	Very strongly cemented	None	Moderate	Moderate
SgD:							
Sugargrove	Bedrock (paralithic)	20-60	---	Very strongly cemented	None	Moderate	Moderate
SkB:							
Sykes	---	---	---	---	None	High	Moderate
SkC2:							
Sykes	Bedrock (lithic)	60-79	---	Indurated	None	High	Moderate
Ta:							
Taft	Fragipan	18-30	---	Noncemented	None	High	High

Table 18.--Soil Features--continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
TbB2:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
TbC2:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
TcC2:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
TcC3:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
ToD:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
ToF:							
Talbott	Bedrock (lithic)	20-40	---	Indurated	None	High	Moderate
Rock outcrop	Bedrock (lithic)	0-0	---	Indurated	None	---	---
TrB:							
Tarklin	Fragipan	---	---	Noncemented	None	Moderate	High
TrC2:							
Tarklin	Fragipan	18-24	---	Noncemented	None	Moderate	High
Tt:							
Trace	---	---	---	---	None	Low	Moderate
W:							
Water	---	---	---	---	None	---	---
WaC2:							
Waynesboro	---	---	---	---	None	High	High
WaD2:							
Waynesboro	---	---	---	---	None	High	High

Table 19.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See the series descriptions in "Classification of the Soils" for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Armour	Fine-silty, mixed, active, thermic Ultic Hapludalfs
Arrington	Fine-silty, mixed, superactive, thermic Cumulic Hapludolls
Ashwood	Fine, mixed, superactive, thermic Vertic Argiudolls
Barfield	Clayey, mixed, active, thermic Lithic Hapludolls
Bewleyville	Fine-silty, siliceous, semiactive, thermic Typic Paleudults
Bradyville	Fine, mixed, active, thermic Typic Hapludalfs
Capshaw	Fine, mixed, semiactive, thermic Oxyaquic Hapludalfs
*Christian	Fine, mixed, semiactive, mesic Typic Hapludults
Dellrose	Fine-loamy, mixed, semiactive, thermic Typic Paleudults
Dickson	Fine-silty, siliceous, semiactive, thermic Glossic Fragiudults
Eagleville	Fine, smectitic, thermic Fluvaquentic Vertic Endoaquolls
Egam	Fine, mixed, active, thermic Cumulic Hapludolls
Etowah	Fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Gilpin	Fine-loamy, mixed, semiactive, mesic Typic Hapludults
Gladdice	Fine, mixed, active, thermic Vertic Hapludalfs
Gladeville	Clayey-skeletal, mixed, active, thermic Lithic Haprendolls
Guthrie	Fine-silty, siliceous, semiactive, thermic Typic Fragiaquults
Hampshire	Fine, mixed, active, thermic Ultic Hapludalfs
Hawthorne	Loamy-skeletal, siliceous, semiactive, thermic Typic Dystrudepts
Inman	Fine, mixed, active, thermic Ruptic-Alfic Eutrudepts
*Jefferson	Fine-loamy, siliceous, semiactive, mesic Humic Hapludults
Lee	Fine-loamy, siliceous, semiactive, acid, thermic Typic Endoaquepts
Lindell	Fine-loamy, mixed, active, thermic Fluvaquentic Eutrudepts
Lobelville	Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts
Lonewood	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Mimosa	Fine, mixed, semiactive, thermic Typic Hapludalfs
*Monongahela	Fine-loamy, mixed, semiactive, mesic Typic Fragiudults
Mountview	Fine-silty, siliceous, semiactive, thermic Oxyaquic Paleudults
Nella	Fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Ocana	Fine-loamy, mixed, active, thermic Dystric Fluventic Eutrudepts
Sango	Coarse-silty, siliceous, semiactive, thermic Glossic Fragiudults
Sugargrove	Fine-loamy, mixed, semiactive, thermic Typic Hapludults
Sykes	Fine-silty, mixed, active, thermic Typic Paleudalfs
Taft	Fine-silty, siliceous, semiactive, thermic Glossaquic Fragiudults
Talbott	Fine, mixed, semiactive, thermic Typic Hapludalfs
*Tarklin	Fine-loamy, siliceous, semiactive, mesic Typic Fragiudults
Trace	Fine-silty, mixed, active, thermic Ultic Hapludalfs
Waynesboro	Fine, kaolinitic, thermic Typic Paleudults