



United States  
Department of  
Agriculture

In cooperation with the  
Illinois Agricultural  
Experiment Station

# Soil Survey of Jersey County, Illinois



NRCS

Natural  
Resources  
Conservation  
Service





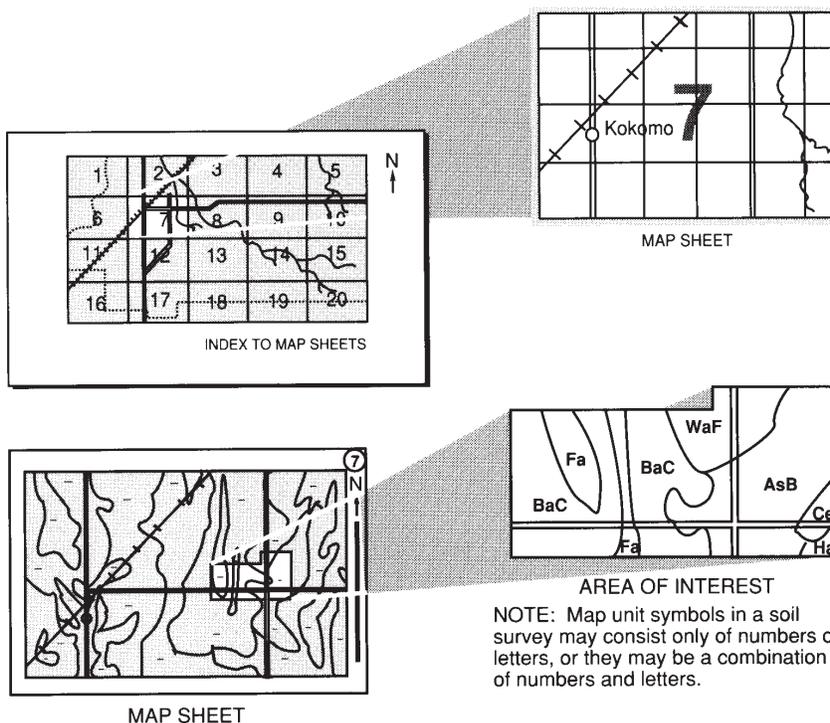
# How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided 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.



## National Cooperative Soil Survey

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. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Jersey County Soil and Water Conservation District. Additional funding was provided by the Illinois Department of Agriculture and the Jersey County Board.

Major fieldwork for this soil survey was completed in 2002. Soil names and descriptions were approved in 2002. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. The most current official data are available on the Internet.

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 Photo Caption

Gently sloping areas of Drury and Worthen soils on alluvial fans along the Illinois River flood plain. Strongly sloping to steep areas of Sylvan and Bold soils are on the loess hills in the background.

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

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# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys 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 surveys 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 surveys to help them understand, protect, and enhance the environment.

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

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

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

William J. Gradle  
State Conservationist  
Natural Resources Conservation Service



# Soil Survey of Jersey County, Illinois

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By Robert A. Tegeler, Natural Resources Conservation Service

Original fieldwork for the 1966 soil survey by J.B. Fehrenbacher, A.H. Beavers, R.B. Grossman, and R.R. Johnson, University of Illinois Agricultural Experiment Station, and F.L. Awalt, F.W. Cleveland, C.E. Downey, C.C. Miles, L.L. Miller, Richard Rehner, and B.J. Weiss, Soil Conservation Service

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Illinois Agricultural Experiment Station

JERSEY COUNTY is in west-central Illinois at the junction of the Illinois and Mississippi Rivers (fig. 1). The county is bordered on the west by the Illinois River and on the southwest by the Mississippi River. The Great River Road follows the rivers on these borders along panoramic bluffs and scenic hills and bottom land. The River Road in this area is denoted as a Federal Scenic Byway and is considered to be one of the Nation's most scenic roads.

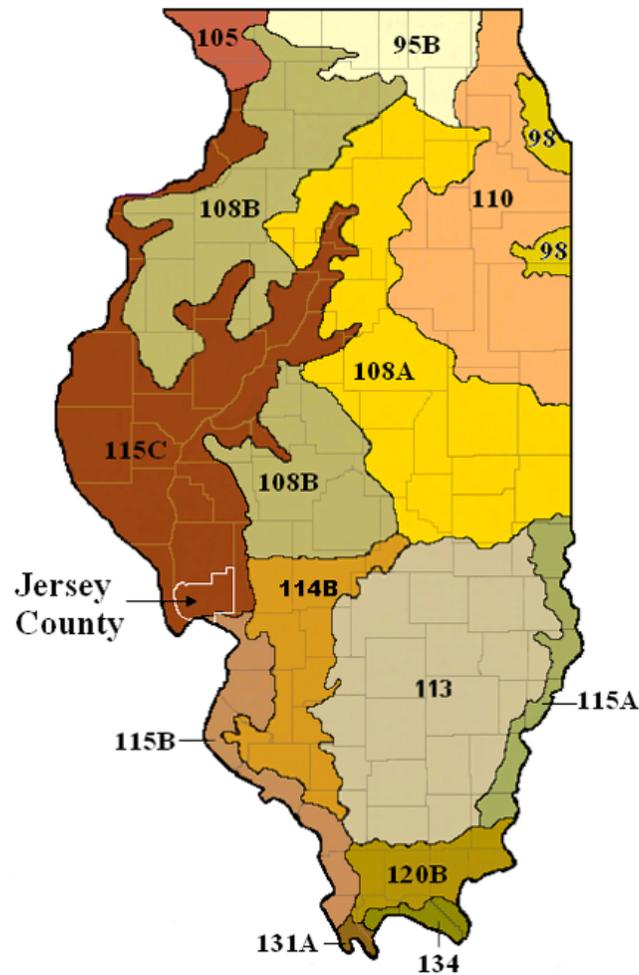
The county has an area of 241,790 acres, or about 377 square miles. It is bordered on the north by Greene County, on the east by Macoupin County, on the west by Calhoun County, and on the southeast by Madison County. Jerseyville, the county seat and largest town, is in the north-central part of the county. It has a population of 7,765 (U.S. Department of Commerce, 2000b).

This soil survey updates the survey of Jersey County published in 1966 (Fehrenbacher and Downey, 1966). It provides more information and orthophotographic maps at a slightly larger scale, in both electronic and digital format.

## General Nature of the County

Jacquie L. Simon, District Conservationist, Natural Resources Conservation Service, and Jeff Blackorby, Resource Conservationist, Jersey County Soil and Water Conservation District, helped prepare this section.

This section provides general information about Jersey County. It describes history and development; physiography; geology; farming and agriculture; transportation facilities and industry; and climate.



#### LEGEND

- 95B—Southern Wisconsin and Northern Illinois Drift Plain
- 98—Southern Michigan and Northern Indiana Drift Plain
- 105—Northern Mississippi Valley Loess Hills
- 108A and 108B—Illinois and Iowa Deep Loess and Drift
- 110—Northern Illinois and Indiana Heavy Till Plain
- 113—Central Claypan Areas
- 114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
- 115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
- 120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
- 131A—Southern Mississippi River Alluvium
- 134—Southern Mississippi Valley Loess

Figure 1.—The location of Jersey County and the major land resource areas (MLRAs) in Illinois.

## History and Development

In 1673, Father Jacques Marquette and Louis Joliet landed in the area that is now Jersey County during their expedition to explore the Mississippi River and to set up trade with the native Indians, who were mainly of the Illinois tribe. Their landing site is commemorated with a white stone cross at the confluence of the Illinois and Mississippi Rivers near Grafton, Illinois (fig. 2). Approximately 4 miles west of Grafton

is Pere Marquette State Park, the largest State park in Illinois. This plush 8,050-acre park is named for the courageous Jesuit priest.

Jersey County belonged to many different territories in the early history of the Mississippi valley. The French laid claim to the valley from 1673 to 1763. The English took possession of all French land east of the Mississippi at the end of the French and Indian War. At the time Illinois was established as a State in 1818, the area now known as Jersey County was the southern part of Greene County. Jersey County was established in 1839.

Until 1834, Jerseyville, the county seat, had been known as Hickory Grove. This name was derived from the fact that a parcel of oak forest intermingled with several large hickory trees made up the only trees growing on the property that was actually owned by the city. In 1834, during a meeting of the principal inhabitants of Hickory Grove, Dr. W. Lott, a popular businessman and a native of New Jersey, made the motion to change the name to Jerseyville. After much discussion, the group agreed on the name of Jerseyville instead of Jerseyville. In 1835, the first public sale of lots took place; the lots were 50 feet by 110 feet and were priced between \$20 and \$40.

With the new name of Jerseyville appearing on the new map of Illinois, a wave of migration rolled from New Jersey toward Jerseyville. The town of Jerseyville was incorporated in July 1837. In 1840, the prestigious Jersey County courthouse was erected near the downtown Jerseyville area. The new courthouse helped to ensure that Jerseyville would remain the county seat (Cooper, 1901; Postlewait, 1991).

## Physiography

Most of Jersey County (approximately the eastern three-fourths) is in the Springfield Plain, which is in the Till Plains section of the Central Lowland province of the Interior Plains Physiographic Division (Leighton and others, 1948). The rest of the



Figure 2.—This marker near the junction of the Illinois River with the Mississippi River indicates where Marquette and Joliet first entered Illinois in 1673.

county is largely in the Lincoln Hills section of the Ozark Plateaus province, although the southwestern tip is in the Salem Plateau section of that province; both provinces are in the Interior Highlands Physiographic Division.

The Springfield Plain is a relatively level area with rather shallow entrenchment of drainage, as compared to the highly dissected Lincoln Hills and Salem Plateau sections. All of the Springfield Plain was glaciated. Near its boundary (the margin of the glaciated part of the county) between Otter and Macoupin Creeks, several knolls or hills rise 25 feet or more above the general level of the plain. The long axis of some of these is arranged northeast-southwest, but others have their longest dimension in a northwest-southeast direction. Some of these mounds have the appearance of drumlins and are composed of glacial till with a loess cover (Rubey, 1952).

The Lincoln Hills and the Salem Plateau sections are much more dissected than the Springfield Plain. Streams are more deeply incised, and interfluvies or drainage divides are much narrower in general. All of the Salem Plateau and part of the Lincoln Hills section are unglaciated. Local relief in these two sections is on the order of several hundred feet.

The Illinois, Mississippi, and Missouri Rivers have a complex geological history in the Jersey County area. Both the Illinois and Mississippi Rivers have cut deep trenches in the bedrock, and there have probably been several cycles of cutting and filling (Rubey, 1952). The present flood plains are aggraded (filled) to a considerable extent above the bedrock floor. In both valleys, and especially in tributary valleys of Piasa, Otter, and Macoupin Creeks, there are remnants of one or more fill levels at elevations intermediate between those of the present flood plains and the uplands. Two of these intermediate or terrace levels, Brussels (the oldest and highest) and Deer Plain (the youngest and lowest), are evident in the lower Macoupin Creek valley. The intermediate level between Brussels and Deer Plain, the Metz Creek terrace, is more poorly developed and typically hard to recognize. Some of these levels are also evident in the lower stretches of the Otter and Piasa Creek valleys. The Deer Plain terrace level is evident below the bluffs just south of Spankey in the southwest  $\frac{1}{4}$  of section 33, T. 9 N., R. 13 W., and the Brussels terrace level is well preserved in the west-central part of section 35, T. 9 N., R. 13 W., about 2 miles east of Spankey.

The fill in the Illinois and Mississippi valleys at levels corresponding to these terrace levels in the tributary creek valleys has largely been removed by cutting and replaced by more recent alluvium or flood plain sediments. The Deer Plain terrace level is, however, well preserved west of the river in the Illinois River valley. It is typically characterized by very fine textured sediments and very heavy soils, such as Booker soils, but in places the fine textured material is covered by silty alluvium or bluff wash. The Brussels terrace typically has a loess or sandy mantle.

The lodge at Pere Marquette State Park is on a remnant of the Brussels terrace. Route 100 in front of the lodge is on a remnant of the lower lying Deer Plain terrace. Other natural area inventory sites include McAdams Peak, Hill Prairie, Teneriffe School Geological Area, Principia Hill Prairies East, Gilbert Lake, Chautauqua Prairie, Pere Marquette Bald Eagle Habitat, Brainerd Cave, Distillery Hollow Glade, Principia Hill Prairies West, St. Andrew Ridge Woods, Powdermill Bed, and Deer Lick Hollow Geological Area.

Maximum relief in Jersey County is in the vicinity of Pere Marquette State Park, where the highest elevation is about 890 feet. The lowest elevation, about 420 feet, is on the southernmost part of the Mississippi River flood plain (fig. 3). Jerseyville has an elevation of about 650 feet, Fieldon about 700 feet, Otterville about 620 feet, and Fidelity about 630 feet. Grafton has an elevation of about 440 feet, and Elsah has an elevation of about 450 feet. Both Grafton and Elsah are along the Mississippi River.

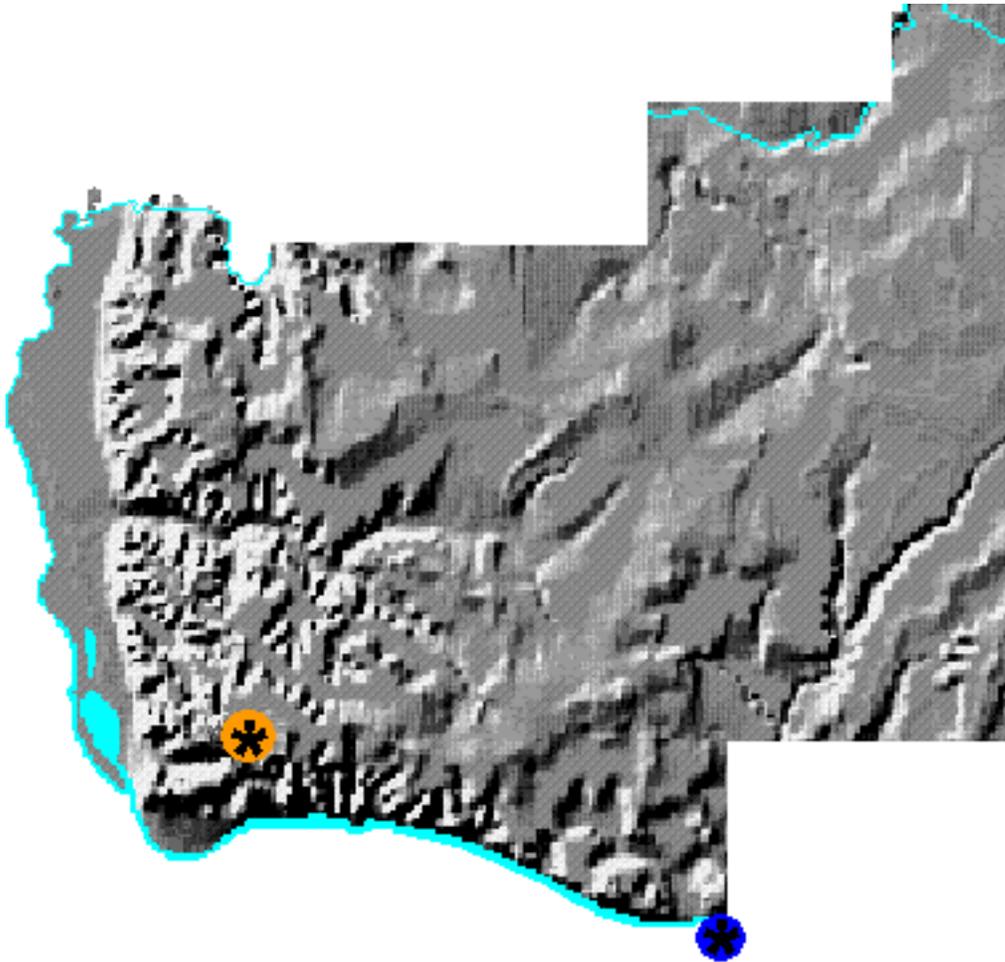


Figure 3.—A generalized relief map of Jersey County showing the highest and lowest points in the county. The blue dot represents the lowest elevation, 420 feet above mean sea level, on the southernmost part of the Mississippi River flood plain. The orange dot represents the highest elevation, 890 feet above mean sea level, in Pere Marquette State Park. (Source: Illinois State Geological Survey, [http://www.isgs.uiuc.edu/hi\\_low/hilow\\_intro.html](http://www.isgs.uiuc.edu/hi_low/hilow_intro.html))

## Geology

Approximately the eastern one-half of Jersey County is underlain by rocks of Pennsylvanian age. The remainder of the county is underlain by older rocks. These are predominantly of Mississippian age, but even older rocks (Devonian, Silurian, and Ordovician) are exposed in places along the Mississippi River bluffs and along the Illinois River bluffs south of the junction of Illinois Routes 16 and 100. Limestone, dolomite, and shale are the principal kinds of rock in the county. Some of the limestone is cherty, and the solution of the limy material has left an accumulation of the weather-resistant chert on many slopes and in the valleys in the southwestern part of the county.

The structural geology of Jersey County is complex, especially in the western and southwestern parts, where there are a number of anticlines and synclines and the Cap

Au Gres faulted flexure. Outside of the western and southwestern parts of the county, the regional dip of the rocks is toward the east.

The Pre-Illinois Episode approached Jersey County from the northwest and extended to the southwest corner of the county. Later, the Illinois Episode entered the county from the northeast and covered approximately the northeastern three-fourths of the county. Hickory soils formed in glacial till left by the Illinois Episode. Later, the Wisconsin Episode covered the headwaters of the Illinois and Mississippi Rivers and its melting sent tremendous floods down these rivers.

During seasons when the floods were least frequent, winds picked up dust from the dry flats and deposited it as loess over the uplands. Two main loess sheets, the Farmdale (or Roxana) and the Peoria, occur in Jersey County. The Peoria loess, the youngest and uppermost, is the parent material of most of the upland soils in the county. The total thickness of the loess ranges from more than 300 inches in the western and southwestern parts of the county to about 70 or 80 inches in the eastern part. The valleys of both the Illinois River and the Mississippi River contributed loess to Jersey County. Also, some loess was probably contributed to the county by the Missouri River valley, which joins the Mississippi River valley a few miles south of Jersey County near St. Charles, Missouri.

During glacial times, several levels of terraces were created in the valleys of the Illinois and Mississippi Rivers. Remnants of these terraces still exist in protected areas, especially along Macoupin, Otter, and Piasa Creeks.

Since glacial times, sediments have continued to be added to the stream valleys. Most of the soils on bottom land are only slightly weathered and developed.

## **Farming and Agriculture**

Farming is still the most important enterprise in the county. An estimated 481 farms make up about 68 percent (164,164 acres) of the county's total acreage (Illinois Agricultural Statistics Service, 2003). Corn and soybeans are the major crops grown; they make up approximately 95 percent of the crops planted annually. Secondary farm products include wheat, hay, cattle, hogs, orchard crops, and timber (fig. 4). The most productive soils in Jersey County are east of U.S. Route 67, which runs north and south through the middle of the county.

Along with good soils for agriculture, Jersey County has access to grain barge lines and railroad cars for transportation of grain products. Also, its proximity to the St. Louis area grain markets makes Jersey County a favorable area for farming.

The number of farms in the county has gradually decreased since the early 1930s. Today, the average farm size is 341 acres compared to 144 acres in 1910 (Illinois Agricultural Statistics Service, 2003). A large number of farms in the county rely on income that is generated from jobs away from the farm. Many of the farmers and their spouses have employment outside of the agricultural industry.

## **Transportation Facilities and Industry**

In recent years, the southern part of Jersey County has experienced a large population surge. Most of the urban buildup is a result of families moving from Madison County (to the south of Jersey County) and from other parts of the St. Louis metropolitan area. These families are buying small tracts of land and building new homes.

In 2004, the county received \$180,000,000 for its part of the Corridor 67 Highway Project. This project is part of the 231-mile Federal Expressway Plan to connect Alton, Illinois, with the Quad Cities. There are two main highways at this time that run through the county. The old Route 67 runs directly north and south through the center of the county, and Route 16 runs east and west. The highways intersect in the center of



**Figure 4.—An apple orchard in an area of Rozetta soils.**

Jerseyville. With more than 90 percent of the county commuting to work, these highways are heavily used. Jersey County also has one railroad that serves the commercial and agricultural businesses. This railroad does not offer passenger services. The nearest passenger railroad system is in Alton, Illinois. Jersey County has no commercial air services available; however, the St. Louis Lambert Airport is within a 45-minute drive from Jerseyville.

The county has two different drinking water supplies. The cities of Jerseyville and Fieldon are served by the city water system, which originates from aquifer wells in the Illinois River valley near Nutwood, Illinois. The rural homes and businesses receive water from the Jersey County Rural Water Company, which serves all townships as a result of assistance provided by the USDA Rural Development. The Jersey County Rural Water Company purchases water from the Illinois Water Company near Alton, Illinois.

Industries in Granite City, Hartford, and the St. Louis area provide the majority of the employment opportunities. The largest employers in the county provide educational, health, and social services and retail jobs (U.S. Department of Commerce, 2000a).

## **Climate**

Jersey County has a continental climate of relatively cold winters and warm, humid summers. Although precipitation is heaviest during the warmer half of the year, winter snow cover and frost usually provide adequate moisture to the soils in spring. Table 1 gives data on temperature and precipitation for the survey area as recorded at Jerseyville in the period from 1971 to 2000. 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 29.9 degrees F and the average daily minimum temperature is 20.8 degrees. The lowest temperature on record, which occurred at Jerseyville on January 17, 1977, is -25 degrees F. In summer, the average temperature is 74.4 degrees and the average daily maximum temperature is 85.6 degrees. The highest recorded temperature, which occurred at Jerseyville on July 14, 1954, is 112 degrees F.

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

The total annual precipitation is 38.41 inches. Of this total, 21.5 inches, or about 56 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 10.45 inches. The heaviest 1-day rainfall on record was 5.81 inches at Jerseyville on August 11, 1961.

The average seasonal snowfall is 16.9 inches. The greatest 1-day snowfall during the period of record was 12 inches at Jerseyville on December 31, 1973. On the average, 26 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

## How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 115B and 115C. Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA/NRCS, 2006). Jersey County is a subset of MLRAs 115B and 115C (fig. 1). Map unit design is based on the occurrence of each soil throughout the MLRA. In some cases a soil may be referred to that does not occur in Jersey County but that has been mapped within the MLRA.

The information in this updated survey includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on 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 prepared new soil profile descriptions and studied many existing soil profile descriptions. The soil profile includes 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 or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during the update, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate 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 observed. The maximum depth of observation was about 80 inches (6.7 feet). Soil scientists noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, soil 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.

Interpretations are modified as necessary to fit local conditions, and some new interpretations are developed to meet local needs. Interpretations and tables for this soil survey were generated using the National Soil Survey Information System (NASIS) version 5.2. 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 seasonal high water table within certain depths in most years, but they cannot predict that the seasonal 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.

Aerial photographs used in this update survey area were taken in 1998 and 1999. Soil scientists also studied U.S. Geological Survey topographic maps (enlarged to a scale of 1:12,000) and orthophotographs to relate land and image features. Specific soil boundaries from the soil maps published in 1966 were drawn on the orthophotographs. Adjustments of soil boundary lines were made to coincide with the U.S. Geological Survey topographic map contour lines and tonal patterns on aerial photographs.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved knowledge of soils, modifications in series concepts, or variations in the extent of the soils in the survey areas.



# Formation and Classification of the Soils

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This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

## Formation of the Soils

Steve Suhl, Resource Soil Scientist, Natural Resources Conservation Service, helped prepare this section.

A soil is a three-dimensional natural body consisting of mineral and organic material that can support plant growth. The nature of any soil at a given site is the result of the interaction of the factors of soil formation and their influence on the processes of soil formation.

## Factors of Soil Formation

There are five factors of soil formation: parent material, climate, plants and animals, topography, and time (Jenny, 1941). Climate and plants and animals act directly on parent material, which is modified by topography over time. Theoretically, if all of these factors were identical at different sites, the soils at these sites would be identical. Differences among the soils are caused by variations in one or more of these factors.

### Parent Material

Parent material is the unconsolidated geologic material in which the soil forms. It determines the basis for the chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. The soils in Jersey County formed in a variety of parent materials. The majority of the soils formed in eolian deposits. Other soils formed in glacial drift, alluvium, residuum, or a combination of these.

Eolian deposits are sediments deposited by the wind. The primary source of these sediments was valley trains. Valley trains consist of outwash deposited in valleys cut by glacial meltwater. During periods of low temperatures and precipitation rates, the meltwaters would recede, exposing the barren outwash surface to intense wind erosion. The wind stripped the finer components from the outwash, which was transported and deposited downwind along the adjacent valley sides and uplands. The coarser silts and sands were deposited near the source valleys, and the finer silts were carried longer distances and deposited over broad areas. In Jersey County, eolian sediments were deposited during the Wisconsin Episode and consisted primarily of loess. Loess is the major parent material in Jersey County. It is composed almost entirely of silt. The thickness of the loess ranges from more than 25 feet in the western and southwestern parts of the county to about 6 feet in the eastern part. Fayette and Osco soils formed in loess.

Drift is glacially deposited sediment. There are two main types of drift—till and outwash. Till is material that was deposited directly by glacial ice with little or no water action. It typically has particles that vary in size, including sand, silt, clay, and some pebbles, cobbles, and larger rock fragments. The small pebbles in till generally have

distinct edges and corners, indicating that they have not been subject to intense washing by water. Till is well graded and unstratified. In Jersey County, till was deposited during the Illinois Episode. The soils that formed in till deposits are of moderate extent in Jersey County. Hickory soils are examples of soils that formed primarily in till. They commonly have a thin overlying layer of loess.

During the Yarmouth and Sangamon interglacial episodes, which occurred before the Illinois Episode and between the Illinois and Wisconsin Episodes, respectively, the relatively flat, stable till surface was exposed to intense weathering. A soil formed in the till surface and was subsequently buried by depositions of loess. In Jersey County, the loess deposits were thick enough to remove the soil from the influence of the active soil-forming processes. The soils that formed in the till are called paleosols, and they reflect the conditions during which their formation occurred. The type of paleosol occurring in Jersey County is called a buried paleosol. A buried paleosol is no longer subject to the soil-forming processes that created it. In some landscape positions, however, where the loess deposits are thinner, the current processes of soil formation have extended through the loess and into the upper part of the paleosol. The result is a welded soil profile. Elco soils are examples of soils that formed in loess and the underlying paleosol.

Glacial outwash includes all sediments deposited by running water from melting glaciers. The size of the particles that can be transported by water, as either bedload or suspended sediments, depends on the gradient, volume, and velocity of the moving water. Water velocity decreases when a stream loses grade or flows into a larger body of water. As the velocity decreases, suspended particles begin to settle out. The coarser materials, such as gravel and cobbles, are deposited nearer to the source; the finer materials, such as fine sands, silts, and clays, are carried farther downstream. The pebbles in outwash generally have rounded edges and corners, indicating that they have been subject to intense washing by water. Outwash is poorly graded, is stratified, and is variable in composition because of variations in the flow of water. Outwash is generally permeable. The outwash in Jersey County was deposited during the Wisconsin Episode. The soils that formed in outwash deposits are of minor extent in Jersey County. Ridgway soils are examples of soils that formed in silty material and the underlying outwash.

Alluvium is material deposited by running water. There are two major types—stream alluvium and valley-side alluvium. Stream alluvium is soil material deposited by floodwater along streams. The source of the alluvium generally is material eroded from other parent materials farther upstream in the watershed. Stream alluvium is poorly graded, stratified, and well sorted. The texture of the soil material varies, depending on the speed of the floodwater, the duration of the flooding, and the distance from the streambank. The faster moving water within the stream channel slows quickly once outside the channel as the concentrated channel flow changes to broad overland flow. As the water velocity decreases, the coarser textured material is deposited first near the channel. The fine textured material is carried a greater distance from the channel. Wilbur soils are examples of soils that formed close to the stream channel where the alluvium is coarser textured. Beaucoup and Tice soils formed in finer textured alluvium farther from the stream channel. Areas that remain flooded for extensive periods of time with slowly moving water, such as backswamps, provide the environment for fine textured material to settle out. Darwin soils are examples of soils that formed in these areas.

Valley-side alluvium is poorly graded and stratified, but it generally is not well sorted. The source of the alluvium generally is material eroded from parent material directly upslope. The soils that form in valley-side alluvium are similar in character to the upslope source. Worthen soils formed in valley-side alluvium.

Residuum is weathered material that accumulates by disintegration of bedrock in place. In Jersey County the bedrock is generally limestone, but some shale also

occurs. The limestone is generally grayish, unconsolidated, and unstratified. Goss soils are examples of soils that formed in material weathered from limestone.

### **Climate**

The climate in Jersey County has significantly affected the soil-forming processes. The county currently has a humid, temperate climate. In this climatic environment, physical and chemical weathering of the parent material can occur along with the accumulation of organic matter, the decomposition of minerals, the formation and translocation of clay, the leaching of soluble compounds, and alternating periods of freezing and thawing.

The two climatic factors that have the greatest influence on soil-forming processes are precipitation and temperature. Precipitation supplies the moisture needed for most physical and chemical processes and determines the depth to which these processes occur. The soil moisture regime, which is only a partial function of precipitation, determines the processes that occur in the soil. The rate at which these physical and chemical processes proceed is dependent upon the temperature, particularly its relationship to the soil temperature regime.

Two soil moisture regimes occur in the county—aquic and udic. The aquic moisture regime is a reducing regime in a soil that is virtually free of dissolved oxygen because of saturation by water or by water of the capillary fringe. Biological activity is necessary to remove dissolved oxygen from ground water; therefore, the soil temperature must also be above biologic zero (5 degrees C) for some time while the soil is saturated. Darwin soils have an aquic soil moisture regime. The udic moisture regime implies that the soil moisture control section is not dry in any part for as long as 90 cumulative days per year. Also required, except for short periods, is a three-phase system, solid-liquid-gas, in part or all of the soil moisture control section when the soil temperature is above biologic zero. Osco soils have a udic soil moisture regime.

The mesic soil temperature regime is the only temperature regime recognized in the county. This regime implies that the mean annual soil temperature is 8 degrees C or higher but is lower than 15 degrees C, and the difference between mean summer and mean winter soil temperatures is more than 5 degrees C at a depth of 20 inches.

### **Plants and Animals**

The vegetation under which a soil forms influences several important soil properties, such as color, structure, reaction, and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic matter to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals.

Several different types of vegetation have influenced the formation of the soils in Jersey County. These include prairie vegetation, upland hardwood forests, forest-prairie transition areas, and flood plain areas. These vegetation types are described in the following paragraphs.

*Prairie Vegetation.*—The decomposition of the roots of annual prairie grasses provides well distributed subsurface accumulations of organic materials, resulting in a thick, dark surface layer. Osco soils formed under prairie vegetation. The average content of organic matter in an uneroded surface layer of these soils is 3 to 4 percent.

*Upland Hardwood Forests.*—Organic matter is contributed primarily from the annual additions of leaf litter to the surface layer, resulting in a thin, dark surface layer. Fayette soils formed under this type of vegetation. The average content of organic matter in an uneroded surface layer of these soils is 1 to 3 percent.

*Forest-Prairie Transition Areas.*—Soils that formed in these areas exhibit modified characteristics of both forest and prairie vegetative regimes. Atterberry soils, which formed in these transition areas, have a thinner surface layer than the soils that formed

under prairie vegetation. The average content of organic matter in the surface layer of the Atterberry soils is 1.5 to 3.5 percent.

*Flood Plain Areas.*—Soils in these areas formed under a combination of trees and grasses. They have colors that largely reflect those of the sediments in which they formed. Tice and Wakeland soils are examples.

Bacteria, fungi, and many other micro-organisms decompose organic material and release nutrients to growing plants. They influence the formation of peds. Soil properties, such as drainage, temperature, and reaction, influence the type of micro-organisms that live in the soil. Fungi are generally more active in the more acid soils, and bacteria are more active in the less acid soils.

Earthworms, crayfish, insects, and small burrowing animals mix the soil and create small channels that influence soil aeration and the percolation of water. Earthworms help to incorporate crop residue or other organic material into the soil. The organic material improves soil tilth. In areas that are well populated with earthworms, the leaf litter that accumulates on the soil in the fall is generally incorporated into the soil by the following spring. If the earthworm population is low, part of the leaf litter can remain on the surface of the soil for several years.

Human activities have significantly influenced soil formation through their effect on soil health. Degradation processes, such as erosion, compaction, contamination, disaggregation, loss of biological activity, and nutrient depletion, have damaged soil health. Native forests have been cleared and wet soils drained for farming and other uses. The development of land for urban uses or for surface mining has significantly influenced the soils in some areas.

### **Topography**

Topography describes the configuration of the land surface in terms of relief and contour. It influences soil formation mainly through its effect on the proportion of surface-water runoff to infiltration and on the degree of erosion or deposition. In Jersey County, the less sloping areas generally have a lower rate of runoff and a higher rate of infiltration than the steeper areas. Soils that form in the less sloping areas tend to exhibit more development than the soils in the steeper areas and have a thicker soil profile.

The degree of the effect of topography is dependent upon the type and stability of the land surface. There are two types of land surfaces—aggrading and degrading—and three levels of stability—stable, metastable, and active. In Jersey County, aggrading surfaces receive material either from deposition associated with flooding or by the accumulation of erosional sediments. Wakeland soils formed on natural levees on flood plains, which are active-aggrading land surfaces. Natural levees receive depositions of sediment from frequent episodes of flooding. Worthen soils formed on footslopes that receive runoff with some accumulation of hillslope sediments. Footslopes are examples of metastable-aggrading land surfaces. Virden soils formed in broad, low-lying areas on drainage divides that receive runoff from upslope but accumulate little sediment from hillslope erosion. These broad, low-lying areas are examples of stable-aggrading land surfaces. Degrading surfaces lose material primarily by the process of erosion. Keomah soils formed on the broad summits of interfluves. Broad summits are examples of stable-degrading surfaces, where runoff is limited. Fayette soils occur on shoulders of hillslopes and thus are more susceptible than the Keomah soils to runoff and erosion. Shoulders are metastable-degrading surfaces, where increased runoff leads to higher rates of erosion. Backslopes are examples of active-degrading surfaces. Fayette soils are on backslopes, where runoff and erosion rates are highest.

## Time

The length of time that the parent material has been exposed to the soil-forming processes influences the degree of genetic horizon development that occurs within the soil. The evaluation of time as a factor in soil formation is difficult because of the effects of the other soil-forming factors. The influence of time can be modified by erosion, deposition of material, topography, and kind of parent material. For example, in the steeper areas on the landscape, much of the rainfall is lost to runoff and little is available to infiltrate and move through the parent material. Soil formation does not proceed as rapidly in these areas, and the surface soil that does form is commonly partially removed by erosion. Soils in these areas are immature, even though the slopes have been exposed to weathering for thousands of years. Bold soils are examples. Some areas on flood plains receive alluvial material during each flood event. The soils that form in these areas are typically immature because the repeated episodes of deposition interrupt soil formation. Wakeland soils are examples of soils that formed in stream alluvium.

## Processes of Soil Formation

Soil forms through the complex interaction of four general processes. These processes are additions, transformations, removals, and transfers. The importance of these processes in the formation of a given soil varies.

The accumulation of organic matter in the A horizon of the mineral soils in Jersey County is an example of an addition. The most striking example of this addition is the formation of the mollic epipedon. The mollic epipedon forms in an environment that features optimum amounts of moisture, temperature, and bivalent cations. Such an environment allows grasses to thrive. The underground decomposition of organic residues and of organic residues from the surface that have been taken underground by animals results in the characteristic thickness and darkness of the mollic epipedon. Muscatune soils are examples of soils that have a mollic epipedon.

Transformations are changes that take place in the soil. An example is the reduction of iron and manganese. Typically, in an aerated environment, iron oxides coat soil particles and produce yellowish, yellowish brown, or reddish colors. Manganese oxides produce black colors. Micro-organisms that are able to generate energy from the oxidation of soil organic matter in an aerated environment flourish. The energy is necessary for the micro-organisms to conduct the basic functions of life. When a soil becomes saturated with water and the dissolved oxygen is depleted or removed, anaerobic conditions develop. In an anaerobic environment, other micro-organisms, which can derive energy from the reduction of oxidized compounds, such as iron and manganese, become prevalent. The energy produced is used to create chemical compounds from organic matter that are necessary to sustain life. The reduced iron or manganese is mobile and migrates in the soil water throughout the soil profile. Reduced iron and manganese can move with the soil water to other parts of the soil (translocation) and can be lost entirely from the soil by leaching (removal). After the iron and manganese are gone, the leached area, or depletion, generally has a grayish or whitish color, which is the natural color of the mineral grains. If the reduced iron is exposed to oxygen, it can re-oxidize. The result is the formation of bright-colored concentrations or accumulations. The processes of reduction, translocation, and oxidation result in the development of distinctive soil morphological characteristics called redoximorphic features. Repeated cycles of saturation and drying create a mottled soil. Part of the soil is gray because the iron has been removed, and other parts are brown because the iron oxide has accumulated or has not been removed.

The somewhat poorly drained Muscatine soils are examples of soils in which this process has occurred. If a soil remains saturated for long periods, iron may be leached from the profile. Such soils are generally grayish, or gleyed. The poorly drained Darwin soils are examples.

Removals that occur within the soil are commonly a result of leaching. The leaching of calcium carbonate from many of the soils in the county is an example of a removal. The parent material of these soils was initially high in calcium carbonate. Water percolating through the soil dissolved and transported the carbonate into the deeper soil layers. Calcium carbonate is relatively soluble and is removed relatively early in the formation of the soil. It is also a powerful flocculent, and its removal facilitates the translocation of clay and the formation of illuvial horizons. The loss of solid mineral and organic particles through erosion is another example of a removal. Such losses can be serious because the material lost is typically the most productive part of the soil profile.

Translocations are movements from one place to another in the soil. An example is the formation of an illuvial horizon through the translocation of clay from the A or E horizon, the zone of eluviation, or loss, to the B horizon, the zone of illuviation, or gain. In Fayette soils, for example, a significant amount of clay has accumulated, forming an illuvial horizon called an argillic horizon. The argillic horizon developed on a relatively old, stable landscape. Fine clay was transferred from the A or E horizon by water from rain and melting snow downward through the soil to the B horizon, where it was deposited on the faces of peds and along pores.

## Soils and Soil-Landscape Units

Soils are natural bodies that are distributed on the landscape in a predictable way in response to a systematic interaction of the five major factors of soil formation—parent material, time, topography, plants and animals, and climate. The relationship of landscape to these five factors results in a soil-landscape unit (Hudson, 1992). A soil-landscape unit is similar to a landform that has been modified by one or more of the soil-forming factors. Within a particular soil-landscape unit, the same kind of soil should develop. Variation in the interaction of the five factors generally results in a change in the soil-landscape unit, which in turn influences the soil-forming processes and the soil that forms within the unit.

The following paragraphs describe the relationships and interactions that occur in some of the more common soil-landscape units in Jersey County and the soils that have formed in these units.

Upland landscapes predominate in Jersey County. These landscapes range from broad, relatively undissected drainage divides to dissected areas adjacent to the river bluffs. The parent material is loess. Much of the calcium carbonate present when the loess was deposited has been leached to a sufficient depth to facilitate soil development.

Low-lying areas on the broad drainage divides are stable-aggrading land surfaces that receive water through direct precipitation and runoff from upslope. These conditions result in a wet soil microclimate. A seasonal high water table is near the surface much of the year, and at times the area is ponded. Redoximorphic features associated with prolonged saturated conditions, such as a depleted soil matrix and iron and manganese accumulations along root channels and pores, occur at the soil surface as a result of the seasonal high water table.

The native vegetation in this soil-landscape unit was prairie grass. Additions of organic material from the decomposition of the extensive and deep root systems of these grasses resulted in the formation of a thick, dark surface layer called a mollic epipedon.

The saturated conditions and poor aeration influenced the rate of decomposition of organic material. This rate is slower in soils that are saturated for prolonged periods, resulting in a thicker mollic epipedon and a higher content of organic matter than those of the soils in better aerated positions upslope.

The depth to the water table, which is shallow a significant part of the year, is often greater in the summer. The variation in the water table depth disrupts the soil fabric through cycles of wetting and drying, which aid in the dispersal of clay, the movement of clay with percolating water, and the precipitation of clay as films on ped surfaces and as linings of pores. The result is the formation of an illuvial horizon called an argillic horizon. Virden soils formed in areas of this soil-landscape unit.

Upslope from the low-lying areas is a soil-landscape unit composed of the summits of broad rises on drainage divides. These areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The seasonal high water table is at a lower depth than in the soils in the adjacent low-lying areas, and the associated redoximorphic features indicate a fluctuating water table. The soil microclimate alternates between periods when the soil is saturated and periods when the soil is unsaturated. The yellowish brown soil matrix in the upper part of the profile indicates an oxidizing environment; the redoximorphic features are associated with periods of saturation.

The native vegetation in areas of this soil-landscape unit was prairie grasses. These landscape positions are better aerated than the adjacent low-lying positions and tend to have a higher rate of decomposition of organic matter. As a result, the soils in these areas generally have a slightly thinner mollic epipedon and a lower content of organic matter than the soils in the low-lying areas.

Fluctuations in depth to the water table disrupt the soil fabric through wetting and drying cycles, which aid in the dispersal, movement, and precipitation of clay. The result is the formation of an argillic horizon. Muscatune soils formed in areas of this soil-landscape unit.

The soil-landscape unit in the more dissected areas is composed of broad summits of interfluves. It has characteristics similar to those of the unit on the summits of broad rises on drainage divides. These dissected areas are stable-degrading land surfaces that receive water primarily through direct precipitation. The depth to the seasonal high water table and the associated redoximorphic features are nearly identical to those of the soil-landscape unit on the summits of broad rises.

The native vegetation in this soil-landscape unit was transitional between forest and prairie vegetation. The soils in these areas have a dark surface layer, but they do not have a mollic epipedon because the dark surface layer is not thick enough and does not have a sufficient accumulation of organic matter. This type of surface horizon is called an ochric epipedon.

A light-colored, eluvial subsurface horizon (called an albic horizon) has also developed in the soils in these areas. This horizon is typical of soils that formed under forest vegetation. In this horizon, much of the clay and free iron oxides has been removed and the color is determined primarily by the uncoated silt and sand particles. The clay translocated from the eluvial horizon to the illuvial horizon results in the formation of an argillic horizon. Atterberry soils are in areas of this soil-landscape unit.

Adjacent to this soil-landscape unit is a unit that is also composed of summits of interfluves but that is generally closer to the opposing interfluvial drainageways and on narrower summits. These areas are stable-degrading land surfaces that receive water through direct precipitation. Water that does not infiltrate the soil is lost through surface flow or runoff. Runoff increases the susceptibility to erosion.

The seasonal high water table and the associated redoximorphic features occur at a much lower depth than in the soils on the broad summits. The upper part of the soil profile is generally yellowish brown and free of depletions, indicating an oxidizing

environment. Depletions occurring in the lower part of the subsoil are generally restricted to the pores within the soil.

The native vegetation in areas of this soil-landscape unit was forest. Under forest vegetation, most of the addition of organic material occurs above ground. Organic matter is not incorporated as deep in the soil profile as it is in soils that formed under prairie vegetation, and the content decreases rapidly with increasing depth. Therefore, the dark surface layer in these soils is thinner than that in the Atterberry soils. An ochric epipedon and an albic horizon have developed.

The more acid leaching environment that occurs under forest vegetation allows dispersed clay particles to be translocated to a greater depth than in similar positions under prairie vegetation. The result is a well developed argillic horizon. Rozetta soils formed in areas of this soil-landscape unit.

In rolling landscapes adjacent to the major rivers in the county is a soil-landscape unit composed of convex summits of narrow interfluves. These areas are metastable-degrading land surfaces that receive water through direct precipitation but also lose some of this water through runoff. Runoff increases the susceptibility to erosion and creates a drier soil microclimate. The seasonal high water table is below the depth of the developing soil profile. The entire profile is yellowish brown or brown, indicating an oxidizing environment.

The native vegetation in this soil-landscape unit was forest. The soils have an ochric epipedon and albic and argillic horizons. Fayette soils are examples.

Downslope from this soil-landscape unit is a unit composed of the backslopes of side slopes. These areas are active-degrading land surfaces that receive water through direct precipitation but also lose much of this water through runoff. The depth to the seasonal high water table is similar to that in the Fayette soils, and thus the soil profile is yellowish brown or brown and is free of depletions.

The native vegetation was forest. Like the Fayette soils, the soils in these areas have an ochric epipedon and albic and argillic horizons. Because much of the water is lost to runoff, however, less water infiltrates and percolates through the soil and less is available to aid in the translocation of clay. As a result, the argillic horizon is not as well developed as in the Fayette soils. Bold soils formed in areas of this soil-landscape unit.

On the narrow flood plains between opposing side slopes is an active-aggrading land surface that receives depositions of sediment from frequent episodes of flooding. The nearly continual deposition of sediment interrupts the soil-forming processes. The result is a less developed soil profile. The soils in these areas have an ochric epipedon, but they also exhibit the fine stratification or thin bedding planes common to recent alluvial deposits, and they have no diagnostic subsurface horizons. Blyton soils are examples.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 4 shows the classification of the soils in Jersey County. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

**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 Udoll (*Ud*, meaning humid, plus *oll*, from Mollisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Argiudolls (*Argi*, meaning white clay, plus *udoll*, the suborder of the Mollisols that has a udic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Argiudolls.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, cation-exchange capacity, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Argiudolls.

**SERIES.** The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.



# Soil Series and Detailed Soil Map Units

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In this section, arranged in alphabetical order, each major soil series recognized in the county is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units on the detailed soil maps in this survey 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 headings "Use and Management of the Soils" and "Soil Properties."

A map unit delineation on a soil 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. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils 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 minor components that belong to taxonomic classes other than those of the major soils.

Most minor 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, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. 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 contrasting components are mentioned in the map unit descriptions. A few areas of minor components 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 minor components 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. If intensive use of small areas is planned, however, 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, Fayette silt loam, 5 to 10 percent slopes, eroded, is a phase of the Fayette series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are called complexes. 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. Sylvan-Bold silt loams, 18 to 35 percent slopes, is an example.

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

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## **Assumption Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

*Taxadjunct features:* The Assumption soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

### **Typical Pedon**

Assumption silt loam, 2 to 5 percent slopes, at an elevation of 720 feet; Henry County, Illinois; 100 feet north and 300 feet east of the southwest corner of sec. 29, T. 15 N., R. 2 E.; USGS Andover, Illinois, topographic quadrangle; lat. 41 degrees 15 minutes 00 seconds N. and long. 90 degrees 17 minutes 57 seconds W.; UTM zone 15, 726284E 4570032N, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; many fine roots throughout; neutral; abrupt smooth boundary.

A—6 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine roots throughout; slightly acid; clear smooth boundary.

AB—13 to 16 inches; very dark grayish brown (10YR 3/2) silt loam mixed with some brown (10YR 4/3) in the lower 2 inches, grayish brown (10YR 5/2) and brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; many fine roots throughout; neutral; clear wavy boundary.

- Bt1—16 to 26 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots between peds; many distinct thick brown (10YR 5/3) clay films on faces of peds; slightly acid; clear wavy boundary.
- Bt2—26 to 35 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of iron accumulation and common faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; abrupt wavy boundary.
- 2Bt3—35 to 51 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; common fine roots between peds; common distinct dark yellowish brown (10YR 4/3) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation; common medium prominent light olive gray (5Y 6/2) iron depletions; slightly acid; clear wavy boundary.
- 2Bt4—51 to 60 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between peds; many distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; slightly acid; clear wavy boundary.
- 2C—60 to 80 inches; brown (10YR 5/3) clay loam; massive; firm; common coarse faint grayish brown (2.5Y 5/2) iron depletions and common coarse faint brown (7.5YR 4/4) masses of iron and manganese accumulations in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 48 to more than 70 inches

*Thickness of the loess:* 20 to 40 inches

*Thickness of the mollic epipedon:* 10 to 20 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt horizon(s):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 6

Texture—silty clay loam or silt loam

*2Btg or 2Bt horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, clay, or silty clay

*2C or 2Cg horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, clay, or silty clay

## **259C2—Assumption silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Assumption and similar soils: 100 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay in the surface layer
- Soils that have a thicker dark surface soil
- Soils that have a seasonal high water table at a depth of less than 2.0 feet
- Soils that have less clay in the lower part of the subsoil

### ***Properties and Qualities of the Assumption Soil***

*Parent material:* Loess over paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Atlas Series***

*Taxonomic classification:* Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs

### ***Typical Pedon***

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 665 feet; Adams County, Illinois; 1,200 feet west and 50 feet south of the northeast corner of sec. 7, T. 1 N., R. 6 W.; USGS Coatsburg, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 40 seconds N. and long. 91 degrees 07 minutes 52 seconds W.; UTM zone 15, 659313E 4439916N, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots;

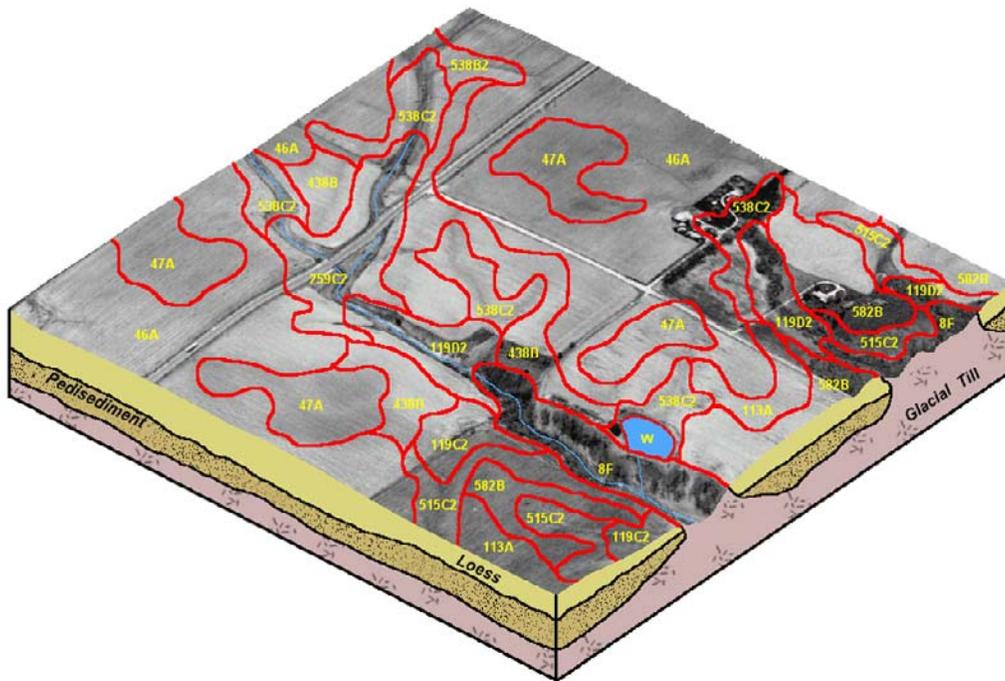


Figure 5.—Typical pattern of nearly level to steep upland prairie and forest soils that formed in loess, in loess over pedisement, or in till.

- common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout, few fine distinct black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.
- BE—7 to 13 inches; brown (10YR 5/3) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; common fine roots; few fine faint light brownish gray (10YR 6/2) clay depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; slightly acid; clear wavy boundary.
- 2Btg1—13 to 26 inches; dark gray (10YR 4/1) silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; firm; common fine and few medium roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent white (10YR 8/1) masses of barite throughout; moderately acid; clear wavy boundary.
- 2Btg2—26 to 37 inches; 87 percent dark gray (10YR 4/1) and 10 percent gray (10YR 5/1) silty clay; weak medium prismatic structure; firm; common fine and medium roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent white (10YR 8/1) masses of barite throughout; 1 percent rounded gravel and 1 percent subangular limestone-cherty gravel; neutral; clear wavy boundary.
- 2Btg3—37 to 47 inches; gray (2.5Y 5/1) silty clay; weak coarse prismatic structure; firm; common fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation throughout and few fine faint gray (10YR 6/1) iron depletions and few fine prominent white (10YR 8/1) masses of barite throughout; 1 percent angular gravel; neutral; clear wavy boundary.

- 2Btg4—47 to 61 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of pedis and in pores; few fine distinct black (2.5Y 2/1) masses of manganese accumulation and few fine prominent white (10YR 8/1) barite crystals throughout; 1 percent limestone-cherty gravel and 1 percent rounded igneous-granite gravel; neutral; clear wavy boundary.
- 2BCg—61 to 80 inches; light brownish gray (2.5Y 6/2) clay loam; weak coarse prismatic structure; firm; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common medium prominent brownish yellow (10YR 6/8) masses of iron accumulation throughout; 2 percent limestone-cherty gravel; neutral.

### Range in Characteristics

*Thickness of the loess:* 0 to 20 inches

*Depth to the base of the diagnostic horizon:* More than 42 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 to 5

Chroma—1 to 4

Texture—silt loam or silty clay loam

*E or BE horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—1 to 4

Texture—silt loam or silty clay loam

*Bt, Btg, or 2Btg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 3

Texture—clay loam, clay, silty clay loam, or silty clay

*2BCg or 2Cg horizon(s) (where present):*

Hue—10YR, 7.5YR, 5Y, or N

Value—4 to 6

Chroma—0 to 6

Texture—clay, clay loam, or loam

Content of rock fragments—2 to 15 percent

## 897C2—Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Bunkum—shoulders and backslopes; Atlas—backslopes

### Map Unit Composition

Bunkum and similar soils: 55 percent

Atlas and similar soils: 35 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on broad summits

#### **Properties and Qualities of the Bunkum Soil**

*Parent material:* Loess over silty pedisegment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

#### **Properties and Qualities of the Atlas Soil**

*Parent material:* Loess over paleosol that formed in till

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

#### **Interpretive Groups**

*Land capability classification:* Bunkum—3e; Atlas—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Bunkum—not hydric; Atlas—not hydric

## ***Atterberry Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

### **Typical Pedon**

Atterberry silt loam, 0 to 2 percent slopes, at an elevation of 660 feet; Bureau County, Illinois; 1,650 feet north and 1,120 feet east of the southwest corner of sec. 34, T. 16 N., R. 9 E.; USGS Princeton South, Illinois, topographic quadrangle; lat. 41 degrees 19 minutes 30 seconds N. and long. 89 degrees 26 minutes 47 seconds W.; UTM zone 16, 295253E 4577728N, NAD 83:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.

E—9 to 13 inches; light brownish gray (10YR 6/2) silt loam; moderate thin platy structure; friable; few fine roots; common fine faint grayish brown (10YR 5/2) iron depletions; slightly acid; clear smooth boundary.

BE—13 to 17 inches; brown (10YR 5/3) silt loam; moderate medium platy structure parting to moderate very fine subangular blocky; friable; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds and common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine dark brown (7.5YR 3/2) concretions of iron and manganese oxide; few fine faint grayish brown (10YR 5/2) iron depletions; slightly acid; clear smooth boundary.

Bt—17 to 24 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few fine roots; many faint dark grayish brown (10YR 4/2) clay films and common faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg1—24 to 33 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common fine prominent yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg2—33 to 40 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; common fine prominent rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; many fine prominent yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg3—40 to 48 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many fine prominent yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

BCg—48 to 55 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; friable; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many medium prominent yellowish brown (10YR 5/6) iron concentrations; moderately acid; clear wavy boundary.

Cg—55 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) iron concentrations; slightly acid.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* 42 to 72 inches

*Ap or A horizon(s):*

Hue—10YR  
Value—2 or 3  
Chroma—1 or 2  
Texture—silt loam

*E horizon(s):*

Hue—10YR  
Value—4 to 6  
Chroma—1 or 2  
Texture—silt loam

*Bt or Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
Value—4 to 6  
Chroma—2 to 4  
Texture—silty clay loam or silt loam

*C or Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
Value—4 to 6  
Chroma—1 to 4  
Texture—silt loam

## **61A—Atterberry silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Summits

### ***Map Unit Composition***

Atterberry and similar soils: 98 percent

Dissimilar soils: 2 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

*Dissimilar soils:*

- The well drained Greenbush and Rozetta soils in the more sloping areas
- The poorly drained Denny and Sable soils in depressions

### ***Properties and Qualities of the Atterberry Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

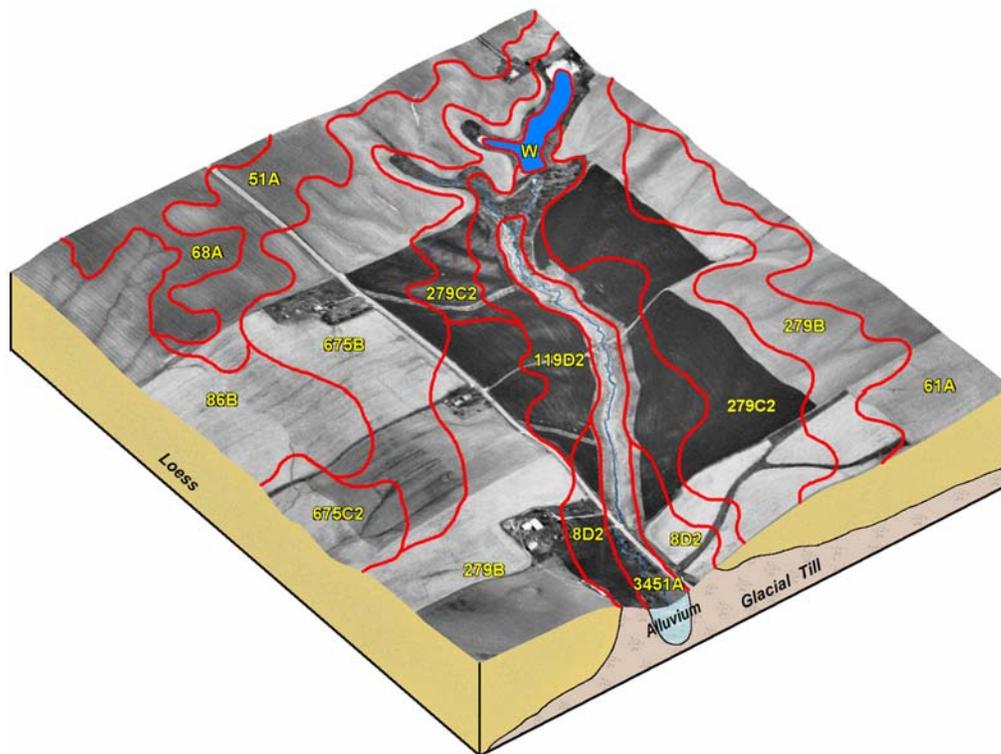


Figure 6.—Typical pattern of nearly level to strongly sloping upland prairie and forest soils that formed in loess, in loess over till, or in till.

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.5 to 3.5 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### **Interpretive Groups**

*Land capability classification:* 2w  
*Prime farmland category:* Prime farmland where drained  
*Hydric soil status:* Not hydric

### **Aviston Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

#### **Typical Pedon**

Aviston silt loam, 2 to 5 percent slopes, at an elevation of about 500 feet; Washington County, Illinois; 2,540 feet north and 1,820 feet east of the southwest corner of sec. 2, T. 2 S., R. 4 W.; USGS Okawville, Illinois, topographic quadrangle; lat. 38 degrees 22

minutes 53 seconds N. and long. 89 degrees 30 minutes 20 seconds W.; UTM zone 16, 281139E 4251110N, NAD 83:

- Ap—0 to 10 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate very fine granular structure; friable; common very fine and fine roots throughout; about 18 percent clay; neutral; abrupt smooth boundary.
- A—10 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure parting to moderate fine granular; friable; common very fine and fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bt1—16 to 23 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots between peds; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—23 to 32 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots between peds; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and few prominent very dark gray (10YR 3/1) organic coatings lining root channels; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) masses of manganese accumulation; slightly acid; clear smooth boundary.
- Bt3—32 to 39 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and few prominent very dark gray (10YR 3/1) organic coatings lining root channels; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) masses of manganese accumulation; slightly acid; gradual smooth boundary.
- Bt4—39 to 48 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure; friable; few very fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds and few prominent very dark gray (10YR 3/1) organic coatings lining root channels; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; common fine and medium irregular black (10YR 2/1) masses of manganese accumulation; slightly acid; gradual smooth boundary.
- Bt5—48 to 67 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure; friable; few very fine roots between peds; few faint grayish brown (10YR 5/2) clay films on vertical faces of peds and very few prominent very dark gray (10YR 3/1) organic coatings lining root channels; many fine faint light brownish gray (10YR 6/2) iron depletions and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) masses of manganese accumulation; slightly acid; clear smooth boundary.
- 2BC—67 to 84 inches; brown (7.5YR 5/3) silt loam; weak coarse prismatic structure; friable; few distinct brown (10YR 4/3) clay films on vertical faces of peds; many medium faint light brown (7.5YR 6/2) iron depletions and many fine and medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (10YR 2/1) masses of manganese accumulation; slightly acid.

#### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches

*Thickness of the loess:* More than 60 inches

*Depth to carbonates:* More than 60 inches

*Depth to the base of the diagnostic horizon:* More than 60 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt horizon(s):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

*2BC or 2C horizon(s) (where present):*

Hue—7.5YR, 10YR, or 2.5Y

Value—5 or 6

Chroma—1 to 4

Texture—commonly silt loam; less commonly silty clay loam, clay loam, or loam

## **438B—Aviston silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Summits

### ***Map Unit Composition***

Aviston and similar soils: 100 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have a seasonal high water table at a depth of more than 4 feet
- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil

### ***Properties and Qualities of the Aviston Soil***

*Parent material:* Loess over silty pedisegment

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Beaucoup Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic  
Endoaquolls

#### **Typical Pedon**

Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 475 feet; Adams County, Illinois; 727 feet south and 2,577 feet west of the northeast corner of sec. 9, T. 1 N., R. 9 W.; USGS Long Island, Illinois, topographic quadrangle; lat. 40 degrees 05 minutes 39 seconds N. and long. 91 degrees 26 minutes 50 seconds W.; UTM zone 15, 632420E 4439184N, NAD 83:

- Ap—0 to 6 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common fine roots; few fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation between peds; neutral; gradual smooth boundary.
- A—6 to 15 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 3/4) masses of iron and manganese accumulation between peds; neutral; gradual smooth boundary.
- Bg1—15 to 24 inches; dark gray (10YR 4/1) silty clay loam; weak fine prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.
- Bg2—24 to 35 inches; gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; common fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.
- Bg3—35 to 48 inches; gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; few fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.
- BCg—48 to 60 inches; gray (5Y 5/1), stratified silt loam and silty clay loam; weak medium prismatic structure; friable; very few faint dark gray (5Y 4/1) organo-clay films in root channels and pores; common fine prominent dark yellowish brown (10YR 4/4) and few fine prominent dark brown (7.5YR 3/4) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.
- Cg1—60 to 70 inches; dark gray (10YR 4/1), stratified silt loam and silty clay loam; massive; friable; common fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.
- Cg2—70 to 80 inches; dark gray (10YR 4/1), stratified silt loam and silty clay loam; massive; friable; common fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation throughout; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to carbonates (if they occur):* More than 40 inches

*Depth to the base of the diagnostic horizon:* 35 to 65 inches

*Ap or A horizon(s):*

Hue—10YR or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Bg or Btg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—stratified silty clay loam, silt loam, loam, sandy loam, fine sandy loam, or very fine sandy loam

## 3070A—Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more sand in the underlying material
- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil
- Soils that have less clay in the surface layer

*Dissimilar soils:*

- The well drained Huntsville soils in the higher areas

### Properties and Qualities of the Beaucoup Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## **3070L—Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration**

### ***Setting***

*Landform:* Flood plains (fig. 7)

### ***Map Unit Composition***

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more sand in the underlying material
- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil
- Soils that have more sand in the surface soil
- Soils that have less clay in the surface layer

#### ***Dissimilar soils:***

- The well drained Worthen soils in the higher areas
- The moderately well drained Blyton soils in the slightly higher areas

### ***Properties and Qualities of the Beaucoup Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

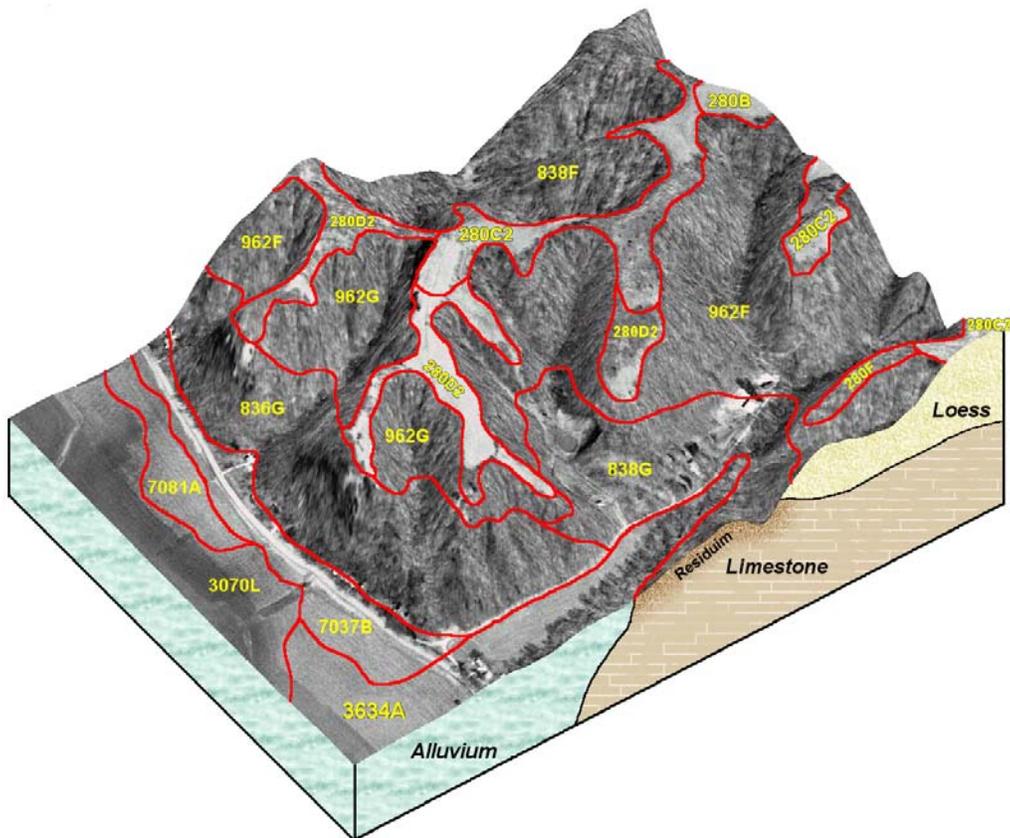


Figure 7.—Typical pattern of nearly level to gently sloping soils on flood plains and gently sloping to very steep upland soils along the Illinois River. These soils formed in loess, in material weathered from limestone, in limestone colluvium, or in alluvium.

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 4w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

### **8070A—Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded**

#### ***Setting***

*Landform:* Flood plains

#### ***Map Unit Composition***

Beaucoup and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have more sand in the underlying material
- Soils that have more sand in the subsoil
- Soils that have more clay in the surface layer and in the subsoil
- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot

*Dissimilar soils:*

- The well drained Jules soils in the higher positions

### ***Properties and Qualities of the Beaucoup Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Occasional, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Biddle Series***

*Taxonomic classification:* Fine, smectitic, mesic Aquic Argiudolls

### ***Typical Pedon***

Biddle silt loam, in an area of Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes, at an elevation of about 475 feet; St. Clair County, Illinois; approximately 1,290 feet south and 1,555 feet east of the northwest corner of sec. 1, T. 2 S., R. 8 W.; USGS Freeburg, Illinois, topographic quadrangle; lat. 38 degrees 23 minutes 32 seconds N. and long. 89 degrees 56 minutes 10 seconds W.; UTM zone 16, 243561E 4253423N, NAD 83:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine roots; few fine rounded black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; slightly acid; abrupt smooth boundary.

A—7 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; many very fine

- roots; few fine rounded black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.
- E—13 to 16 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak fine granular; friable; common very fine roots; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine rounded black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.
- Bt—16 to 25 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; firm; common very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine rounded black (7.5YR 2.5/1) masses of manganese and strong brown (7.5YR 5/6) masses of iron accumulation with sharp boundaries; neutral; clear smooth boundary.
- Btng1—25 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium rounded black (7.5YR 2.5/1) masses of manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.
- Btng2—36 to 46 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.
- Btng3—46 to 55 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of manganese accumulation with clear strong brown (7.5YR 4/6) boundaries; slightly alkaline; gradual smooth boundary.
- BCtng—55 to 62 inches; grayish brown (2.5Y 5/2) silt loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common fine and medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of manganese and dark brown (7.5YR 3/3) masses of iron and manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; slightly alkaline; gradual smooth boundary.
- Cg1—62 to 76 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (7.5YR 2.5/1) masses of manganese and dark brown (7.5YR 3/3) masses of iron and manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; slightly alkaline; clear smooth boundary.
- 2Cg2—76 to 80 inches; brown (7.5YR 5/2) silt loam; massive; friable; many fine and medium distinct brown (7.5YR 5/4) masses of iron and manganese accumulation in the matrix; common fine and medium irregular black (7.5YR 2.5/1) masses of manganese and dark brown (7.5YR 3/3) masses of iron and manganese accumulation with diffuse strong brown (7.5YR 4/6) boundaries; 1 percent pebbles; slightly alkaline.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 40 to 72 inches

*Thickness of the mollic epipedon:* 10 to 18 inches

*Thickness of the loess:* 60 to 80 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2

Texture—silt loam

*E horizon(s) (where present):*

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—1 or 2

Texture—silt loam

*Bt or Btn horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 5 in the upper part; 4 to 6 in the lower part

Chroma—1 to 4

Texture—silty clay loam or silty clay in the upper part; silty clay loam or silt loam in the lower part

*Cg or 2Cg horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

Texture—commonly silt loam; less commonly silty clay loam, clay loam, or loam

## 894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Herrick and Biddle—summits; Piasa—summits and toeslopes

### Map Unit Composition

Herrick and similar soils: 50 percent

Biddle and similar soils: 30 percent

Piasa and similar soils: 20 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil

### Properties and Qualities of the Herrick Soil

*Parent material:* Loess over silty pedisegment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Apparent seasonal high water table:* At a depth of 1 to 2 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Properties and Qualities of the Biddle Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* Moderate within a depth of 30 inches  
*Available water capacity:* About 11.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At a depth of 1 to 2 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Properties and Qualities of the Piasa Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* High within a depth of 30 inches  
*Available water capacity:* About 7.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Herrick—1; Biddle—2w; Piasa—3w  
*Prime farmland category:* Herrick—prime farmland; Biddle—prime farmland where drained; Piasa—not prime farmland  
*Hydric soil status:* Herrick and Biddle—not hydric; Piasa—hydric

## ***Blyton Series***

*Taxonomic classification:* Coarse-silty, mixed, superactive, nonacid, mesic Oxyaquic Udifluvents

### **Typical Pedon**

Blyton silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 515 feet; Fulton County, Illinois; 1,384 feet east and 824 feet south of the northwest corner of sec. 3, T. 5 N., R. 3 E.; USGS Lewistown, Illinois, topographic quadrangle; lat. 40 degrees 26 minutes 57 seconds N. and long. 90 degrees 09 minutes 24 seconds W.; UTM zone 15, 741114E 4481500N, NAD 83:

- Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine subangular blocky structure; very friable; many very fine roots; neutral; abrupt smooth boundary.
- C1—10 to 23 inches; 55 percent brown (10YR 4/3) and 35 percent brown (10YR 5/3) silt loam; massive with thin bedding planes; very friable; many very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation throughout; neutral; abrupt smooth boundary.
- C2—23 to 26 inches; brown (10YR 4/3) silt loam; massive with thin bedding planes; very friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation throughout and common fine faint grayish brown (10YR 5/2) iron depletions along pores; neutral; clear smooth boundary.
- C3—26 to 80 inches; brown (10YR 4/3) silt loam; massive with thin bedding planes; very friable; common fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; common fine faint grayish brown (10YR 5/2) and light brownish gray (10YR 6/2) iron depletions along pores; neutral.

### **Range in Characteristics**

*Ap or A horizon(s):*

Hue—10YR  
Value—4 or 5  
Chroma—2 to 4  
Texture—silt loam

*C or Cg horizon(s):*

Hue—10YR  
Value—4 to 6  
Chroma—2 to 6  
Texture—silt loam; strata of loam in some pedons

## **3634A—Blyton silt loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains (fig. 7)

### ***Map Unit Composition***

Blyton and similar soils: 90 percent  
Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more sand in the surface layer and in the underlying material
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a seasonal high water table at a depth of less than 2 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Kendall soils in the higher positions
- The poorly drained Birds soils in depressions

### **Properties and Qualities of the Blyton Soil**

*Parent material:* Silty alluvium

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

### **Bold Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents

### **Typical Pedon**

Bold silt loam, in an area of Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded; Henry County, Illinois; 600 feet north and 900 feet east of the southwest corner of sec. 7, T. 16 N., R. 3 E.; USGS Geneseo, Illinois, topographic quadrangle; lat. 41 degrees 23 minutes 04 seconds N. and long. 90 degrees 11 minutes 57 seconds W.; UTM zone 15, 734182E 4585225N, NAD 83:

Ap—0 to 8 inches; mixed brown (10YR 4/3), dark grayish brown (10YR 4/2), and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) dry; weak very fine and fine granular structure; friable; slightly effervescent; moderately alkaline; abrupt smooth boundary.

C1—8 to 16 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C2—16 to 37 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear smooth boundary.

C3—37 to 60 inches; yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear wavy boundary.

C4—60 to 80 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; few coarse prominent strong brown (7.5YR 5/8) iron concentrations; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the loess:* More than 6 feet

*Depth to the base of the diagnostic horizon:* 3 to 12 inches

*Ap horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

*C horizon(s):*

Hue—10YR

Value—4 to 7

Chroma—2 to 8

Texture—silt loam

## **962D2—Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The well drained Fayette soils on summits

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—3e; Bold—3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **962D3—Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 60 percent  
 Bold and similar soils: 30 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent

*Dissimilar soils:*

- The well drained Fayette soils on summits

***Properties and Qualities of the Sylvan Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.1 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 0.2 to 1.0 percent*Shrink-swell potential:* Moderate*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer is mostly subsoil material.*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and low for concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Very low***Properties and Qualities of the Bold Soil****Parent material:* Calcareous loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 13.2 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 0.2 to 1.0 percent*Shrink-swell potential:* Low*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer is mostly subsoil material.*Potential for frost action:* High*Hazard of corrosion:* Low for steel and concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Sylvan—4e; Bold—4e*Prime farmland category:* Not prime farmland*Hydric soil status:* Sylvan—not hydric; Bold—not hydric**962E2—Sylvan-Bold silt loams, 18 to 25 percent slopes,  
eroded*****Setting****Landform:* Loess hills; ground moraines*Position on the landform:* Backslopes

### **Map Unit Composition**

Sylvan and similar soils: 60 percent

Bold and similar soils: 30 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of more than 25 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

#### *Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

### **Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### **Properties and Qualities of the Bold Soil**

*Parent material:* Calcareous loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—6e; Bold—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **962F—Sylvan-Bold silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Loess hills (fig. 7)

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of more than 35 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

*Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Sylvan—6e; Bold—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

### **962G—Sylvan-Bold silt loams, 35 to 60 percent slopes**

#### ***Setting***

*Landform:* Loess hills (fig. 7)  
*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Sylvan and similar soils: 50 percent  
 Bold and similar soils: 40 percent  
 Dissimilar soils: 10 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 35 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

##### *Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

#### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—7e; Bold—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **9962D3—Sylvan-Bold complex, terrace, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Stream terraces  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 60 percent  
 Bold and similar soils: 30 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent
- Soils that have less clay in the surface layer
- Soils that have more sand in the surface soil and in the upper part of the subsoil

#### *Dissimilar soils:*

- The well drained Ridgway soils on summits
- The well drained Drury soils in the lower positions
- The moderately well drained Blyton soils in the lower positions

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.2 to 1.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—4e; Bold—4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## ***Booker Series***

*Taxonomic classification:* Very fine, smectitic, mesic Cumulic Vertic Endoaquolls

### **Typical Pedon**

Booker clay, 0 to 2 percent slopes, rarely flooded, at an elevation of about 439 feet; Jersey County, Illinois; about 2,142 feet south and 2,272 feet east of the northwest corner of sec. 33, T. 9 N., R. 13 W.; USGS Hardin, Illinois, topographic quadrangle; lat. 39 degrees 11 minutes 01 second N. and long. 90 degrees 33 minutes 06 seconds W.; UTM zone 15, 711459E 4340013N, NAD 83:

- Ap—0 to 9 inches; black (N 2.5/) clay, dark gray (N 4/) dry; weak fine and medium granular structure; very firm; common fine roots; neutral; abrupt smooth boundary.
- AB—9 to 29 inches; black (N 2.5/) clay; moderate fine subangular blocky structure; very firm; few fine roots; common distinct black (N 2.5/) pressure faces; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; neutral; gradual wavy boundary.
- Bg1—29 to 48 inches; olive gray (5Y 4/2) clay; moderate fine and medium subangular blocky structure; very firm; few fine roots; common distinct olive gray (5Y 5/2) pressure faces and common faint dark gray (5Y 4/1) clay films along root

channels; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; slightly alkaline; gradual wavy boundary.

Bg2—48 to 60 inches; olive gray (5Y 5/2) clay; weak medium and coarse prismatic structure; very firm; few distinct olive gray (5Y 5/2) pressure faces; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; few fine distinct light gray (5Y 7/1) carbonate masses throughout; slightly effervescent; moderately alkaline; diffuse wavy boundary.

Cg—60 to 80 inches; olive gray (5Y 5/2) clay; massive; firm; few distinct gray (2.5Y 5/1) slickensides and common distinct grayish brown (2.5Y 5/2) pressure faces; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; many fine distinct light gray (5Y 7/1) carbonate masses throughout; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Ap or AB horizon(s):*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—clay or silty clay

*Bg horizon(s):*

Hue—10YR, 5Y, or N

Value—2 to 5

Chroma—0 to 2

Texture—clay or silty clay

*Cg horizon(s):*

Hue—10YR, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—clay or silty clay

## 7457A—Booker clay, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Booker and similar soils: 97 percent

Dissimilar soils: 3 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have less clay in the surface layer
- Soils that have a thinner dark surface soil

*Dissimilar soils:*

- The somewhat poorly drained Dupo and Littleton soils in the slightly higher positions

### Properties and Qualities of the Booker Soil

*Parent material:* Clayey lacustrine deposits

*Drainage class:* Very poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 7.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Very high

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Bunkum Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

### **Typical Pedon**

Bunkum silt loam, 5 to 10 percent slopes, eroded, at an elevation of 660 feet; Adams County, Illinois; 2,053 feet south and 2,388 feet west of the northeast corner of sec. 23, T. 2 S., R. 8 W.; USGS Quincy East, Illinois, topographic quadrangle; lat. 39 degrees 53 minutes 02 seconds N. and long. 91 degrees 17 minutes 30 seconds W.; UTM zone 15, 646061E 4416272N, NAD 83:

Ap—0 to 4 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thick platy structure parting to weak fine subangular blocky; friable; common fine and medium roots throughout; few fine distinct black (2.5Y 2/1) manganese concretions and few fine distinct light gray (10YR 7/2) clay depletions throughout; neutral; abrupt smooth boundary.

AE—4 to 7 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; friable; common fine roots throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.

Bt1—7 to 10 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium subangular blocky structure; friable; few fine roots throughout; few distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent black (2.5Y 2/1) manganese concretions throughout, few fine prominent black (2.5Y 2/1) masses of manganese accumulation between peds, and few fine distinct light brownish gray (10YR 6/2) iron depletions between peds; moderately acid; clear smooth boundary.

Bt2—10 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; few fine roots throughout; common distinct brown (10YR 4/3) clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation, common fine prominent black (2.5Y 2/1) masses of manganese accumulation, and common medium distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.

Bt3—22 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure; friable; few fine roots throughout; few distinct dark yellowish

brown (10YR 4/4) clay films on faces of peds; many medium faint brown (10YR 5/3) masses of iron and manganese accumulation, common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation, and common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; many medium distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; gradual wavy boundary.

- BCt—34 to 50 inches; yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; friable; few fine roots throughout; very few distinct dark yellowish brown (10YR 4/4) clay films in root channels and/or pores; common medium faint brown (10YR 5/3) masses of iron and manganese accumulation, few medium prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, few fine prominent black (2.5Y 2/1) masses of manganese accumulation between peds, and many medium distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.
- 2C1—50 to 65 inches; pale brown (10YR 6/3) silt loam; massive; friable; few fine roots between peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation, common medium faint brown (10YR 5/3) masses of iron and manganese accumulation, and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; many medium faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear wavy boundary.
- 2C2—65 to 78 inches; pale brown (10YR 6/3) silt loam; massive; friable; few fine roots between peds; many coarse faint yellowish brown (10YR 5/4) masses of iron and manganese and few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; few fine prominent (2.5Y 2/1) masses of manganese accumulation and many coarse faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.
- 2C3—78 to 85 inches; yellowish brown (10YR 5/4) silt loam; massive; firm; common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation and common fine and medium prominent black (2.5Y 2/1) masses of manganese accumulation throughout; few coarse distinct light brownish gray (10YR 6/2) iron depletions throughout; moderately acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 24 to 60 inches

*Thickness of the loess:* 24 to 60 inches

*Ap or A horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam or silty clay loam

*Bt or Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silt loam

*2C or 2Cg horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—commonly silt loam; less commonly silty clay loam, clay loam, or loam

## 515B2—Bunkum silt loam, 2 to 5 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Bunkum and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material and have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a darker surface layer

#### *Dissimilar soils:*

- The well drained Rozetta soils on summits

### *Properties and Qualities of the Bunkum Soil*

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 515C2—Bunkum silt loam, 5 to 10 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Bunkum and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material and have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a darker surface layer
- Soils that have more clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Rozetta soils on summits

### ***Properties and Qualities of the Bunkum Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **515C3—Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Bunkum and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material and have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Rozetta soils on summits

***Properties and Qualities of the Bunkum Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Very low

***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**897C2—Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Bunkum—shoulders and backslopes; Atlas—backslopes

***Map Unit Composition***

Bunkum and similar soils: 55 percent

Atlas and similar soils: 35 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on broad summits

***Properties and Qualities of the Bunkum Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Atlas Soil***

*Parent material:* Loess over paleosol that formed in till

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Bunkum—3e; Atlas—3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Bunkum—not hydric; Atlas—not hydric

## ***Caseyville Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

### **Typical Pedon**

Caseyville silt loam, 0 to 2 percent slopes, at an elevation of about 580 feet; St. Clair County, Illinois; 105 feet south and 180 feet west of the northeast corner of sec. 32, T. 1 N., R. 9 W.; USGS Millstadt, Illinois, topographic quadrangle; lat. 38 degrees 29 minutes 53 seconds N. and long. 90 degrees 06 minutes 40 seconds W.; UTM zone 15, 751926E 4265039N, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many very fine and few fine roots; few fine rounded black (7.5YR 2.5/1) manganese nodules with sharp boundaries; neutral; clear smooth boundary.

Eg—7 to 12 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak fine subangular blocky; friable; common very fine and few fine roots; few fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; common fine and

- medium rounded black (7.5YR 2.5/1) manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.
- BE—12 to 16 inches; brown (10YR 5/3) silty clay loam, pale brown (10YR 6/3) dry; moderate fine subangular blocky structure; firm; common very fine roots; common distinct very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium rounded black (7.5YR 2.5/1) manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.
- Bt1—16 to 23 inches; brown (10YR 4/3) silty clay loam; strong medium angular blocky structure; firm; common very fine roots; few distinct very pale brown (10YR 8/2) (dry) clay depletions on faces of peds in the upper part; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine rounded black (N 2.5/) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; strongly acid; clear smooth boundary.
- Bt2—23 to 36 inches; brown (10YR 5/3) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; common very fine roots primarily along vertical faces of peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium rounded black (N 2.5/) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; strongly acid; gradual smooth boundary.
- Bt3—36 to 54 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots primarily along vertical faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint light brownish gray (10YR 6/2) iron depletions and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse rounded black (N 2.5/) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; moderately acid; clear smooth boundary.
- BCtg—54 to 62 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium prismatic structure; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (N 2.5/) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; slightly acid; gradual smooth boundary.
- CBg—62 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; very few distinct dark grayish brown (10YR 4/2) clay films lining root channels; common fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common medium and coarse irregular black (7.5YR 2.5/1) masses of manganese oxides with diffuse strong brown (7.5YR 5/6) boundaries; neutral.

### Range in Characteristics

*Depth to carbonates:* More than 60 inches

*Depth to the base of the diagnostic horizon:* 40 to 76 inches

*Ap or A horizon(s):*

Hue—10YR

Value—3 to 6

Chroma—1 or 2

Texture—silt loam

*E or Eg horizon(s):*

Hue—10YR  
 Value—4 to 6  
 Chroma—1 to 3  
 Texture—silt loam

*Bt or Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silty clay loam or silt loam

*Cg, CBg, or C horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
 Value—5 or 6  
 Chroma—1 to 4  
 Texture—silt loam

**267A—Caseyville silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

***Map Unit Composition***

Caseyville and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The well drained Menfro soils in the more sloping positions
- The poorly drained Pierron soils in depressions

***Properties and Qualities of the Caseyville Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **267B—Caseyville silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

### ***Map Unit Composition***

Caseyville and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

*Dissimilar soils:*

- The well drained Menfro soils in the higher positions on summits

### ***Properties and Qualities of the Caseyville Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Cowden Series***

*Taxonomic classification:* Fine, smectitic, mesic Mollic Albaqualfs

### ***Typical Pedon***

Cowden silt loam, 0 to 2 percent slopes, at an elevation of about 665 feet; Montgomery County, Illinois; approximately 1,980 feet west and 30 feet north of the southeast

corner of sec. 8, T. 9 N., R. 4 W.; USGS Butler, Illinois, topographic quadrangle; lat. 39 degrees 13 minutes 57 seconds N. and long. 89 degrees 33 minutes 18 seconds W.; UTM zone 16, 279470E 4345699N, NAD 83:

- Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine and few fine roots; few fine continuous tubular pores; few fine irregular dark brown (10YR 3/3) masses of iron and manganese accumulation; moderately acid; abrupt smooth boundary.
- Eg1—8 to 14 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium platy structure parting to weak fine subangular blocky; friable; few very fine roots; common fine and medium tubular and vesicular pores; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds and filling pores; few fine irregular dark brown (10YR 3/3) masses of iron and manganese accumulation; moderately acid; clear smooth boundary.
- Eg2—14 to 19 inches; gray (10YR 5/1) silt loam, light gray (10YR 7/1) dry; weak medium platy structure parting to weak fine subangular blocky; friable; few very fine roots; common fine and medium continuous tubular pores; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine irregular dark brown (10YR 3/3) masses of iron and manganese accumulation; strongly acid; abrupt smooth boundary.
- Btg1—19 to 26 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate medium angular and subangular blocky; firm; common very fine roots; few fine continuous tubular pores; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds in the upper 2 inches; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4) and prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.
- Btg2—26 to 43 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; many prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (10YR 2/1) manganese nodules with sharp boundaries and dark reddish brown (5YR 3/4) iron and manganese nodules with sharp boundaries; moderately acid; gradual smooth boundary.
- Btg3—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; few fine vesicular and tubular pores; few prominent black (10YR 2/1) organo-clay films lining root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few medium and coarse irregular black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; slightly acid; gradual smooth boundary.
- BCtg—50 to 58 inches; gray (10YR 6/1) silt loam; weak medium and coarse angular blocky structure; friable; few very fine roots; few fine vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organo-clay films lining root channels and pores; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine and medium irregular black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.
- Cg—58 to 69 inches; grayish brown (10YR 5/2) silt loam; massive; friable; few fine and medium vesicular and tubular pores; few prominent very dark gray (10YR 3/1)

organo-clay films lining root channels and pores; many medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (5YR 2.5/1) manganese nodules with diffuse yellowish red (5YR 5/6) boundaries; about 8 percent sand; neutral; clear smooth boundary.

2Btgb—69 to 80 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to weak medium angular blocky; firm; common medium and coarse vesicular and tubular pores; few prominent very dark gray (10YR 3/1) organo-clay films lining root channels and pores; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium and coarse irregular black (5YR 2.5/1) manganese and yellowish red (5YR 4/6) iron and manganese nodules with clear boundaries; about 15 percent sand and 2 percent pebbles; neutral.

### Range in Characteristics

*Depth to the base of diagnostic horizon:* 40 to 65 inches

*Thickness of the loess:* More than 55 inches

*Other features:* Some pedons have a B/E horizon.

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Eg horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—typically silty clay loam, silty clay, or silt loam

*BCtg or BCg horizon (where present) and Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silt loam or silty clay loam

*2Cg, 2Ab, 2Btgb, and 2Bgb horizon(s) (where present):*

Hue—7.5YR, 10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silt loam, loam, silty clay loam, or clay loam

## 112A—Cowden silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

### **Map Unit Composition**

Cowden and similar soils: 100 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a thicker dark surface soil
- Soils that have a seasonal high water table at a depth of more than 1 foot

### **Properties and Qualities of the Cowden Soil**

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **993A—Cowden-Piasa silt loams, 0 to 2 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

### **Map Unit Composition**

Cowden and similar soils: 50 percent

Piasa and similar soils: 50 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil
- Soils that have a thinner dark surface layer

### **Properties and Qualities of the Cowden Soil**

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* High  
*Apparent seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Piasa Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* High within a depth of 30 inches  
*Available water capacity:* About 7.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Cowden—3w; Piasa—3w  
*Prime farmland category:* Cowden—prime farmland where drained; Piasa—not prime farmland  
*Hydric soil status:* Cowden—hydric; Piasa—hydric

## ***Darwin Series***

*Taxonomic classification:* Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls

### **Typical Pedon**

Darwin silty clay, 0 to 2 percent slopes, occasionally flooded, at an elevation of 435 feet; Schuyler County, Illinois; 297 feet west and 462 feet north of the center of sec. 11, T. 2 N., R. 2 E.; USGS Astoria, Illinois, topographic quadrangle; lat. 40 degrees 09 minutes 54 seconds N. and long. 90 degrees 15 minutes 01 second W.; UTM zone 15, 734154E 4449701N, NAD 83:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine angular blocky structure; firm; many very fine roots; few fine faint black (2.5Y 2/1) manganese concretions throughout; neutral; abrupt smooth boundary.

- A—7 to 12 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate fine angular blocky structure; very firm; many very fine roots; few fine faint black (2.5Y 2/1) manganese concretions throughout; neutral; abrupt smooth boundary.
- Bg1—12 to 18 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; weak medium prismatic structure parting to moderate medium angular blocky; very firm; common very fine roots; many medium prominent dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation, few medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, and few fine and medium faint black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.
- Bg2—18 to 27 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; very firm; common very fine roots; common distinct very dark gray (10YR 3/1) pressure faces; common medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, few fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation, and few fine distinct black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.
- Bg3—27 to 40 inches; gray (10YR 5/1) silty clay; weak coarse prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) pressure faces; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.
- Bg4—40 to 45 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) pressure faces and few distinct very dark gray (10YR 3/1) organic coatings lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.
- BCg—45 to 50 inches; gray (10YR 5/1) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions throughout; slightly alkaline; clear smooth boundary.
- Cg1—50 to 56 inches; gray (10YR 5/1) silty clay loam; massive; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; many medium distinct brown (10YR 4/3) masses of iron and manganese accumulation, common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation, and few fine prominent black (2.5Y 2/1) manganese concretions; 1 percent fine gravel; slightly alkaline; clear smooth boundary.
- Cg2—56 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings lining pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) manganese concretions throughout; many medium faint light gray (10YR 6/1) iron depletions throughout; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Ap and A horizons:*

Hue—10YR, 2.5Y, or N  
 Value—2 or 3  
 Chroma—0 to 2  
 Texture—silty clay

*Bg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—3 to 6  
 Chroma—0 to 2  
 Texture—silty clay or clay; silty clay loam in the lower part in some pedons

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—4 to 6  
 Chroma—0 to 2  
 Texture—silty clay loam, silty clay, or clay

## **3071L—Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Darwin and similar soils: 85 percent  
 Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick

*Dissimilar soils:*

- The somewhat poorly drained Wakeland soils in the higher positions

### ***Properties and Qualities of the Darwin Soil***

*Parent material:* Clayey alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow or slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 7.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Very high

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 1 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 5w  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hydric

## **8071A—Darwin silty clay, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Darwin and similar soils: 85 percent  
 Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have a thinner dark surface soil
- Soils that have a seasonal high water table at a depth of more than 1 foot

#### *Dissimilar soils:*

- The well drained Jules soils in the higher positions

### ***Properties and Qualities of the Darwin Soil***

*Parent material:* Clayey alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow or slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Very high

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 1 foot above the surface

*Frequency and most likely period of flooding:* Occasional, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Denny Series**

*Taxonomic classification:* Fine, smectitic, mesic Mollic Albaqualfs

### **Typical Pedon**

Denny silt loam, 0 to 2 percent slopes, at an elevation of 720 feet; McDonough County, Illinois; 225 feet north and 1,680 feet east of the southwest corner of sec. 25, T. 7 N., R. 3 W.; USGS Good Hope, Illinois, topographic quadrangle; lat. 40 degrees 33 minutes 31 seconds N. and long. 90 degrees 41 minutes 15 seconds W.; UTM zone 15, 695797E 4492335N, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; very friable; few very fine roots throughout; moderately acid; abrupt smooth boundary.

Eg1—8 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak thin platy; very friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common faint grayish brown (10YR 5/2) clay depletions on faces of peds; common fine prominent dark yellowish brown (10YR 3/6) masses of iron and manganese accumulation throughout; few fine black (N 2/) manganese concretions in the matrix; moderately acid; clear smooth boundary.

Eg2—14 to 21 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure parting to moderate medium platy; friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common fine faint dark brown (10YR 3/3) masses of iron and manganese accumulation throughout; common fine black (N 2/) manganese concretions in the matrix; moderately acid; abrupt smooth boundary.

Btg1—21 to 29 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout; common fine black (N 2/) manganese concretions in the matrix; moderately acid; clear smooth boundary.

Btg2—29 to 38 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots between peds; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout; common fine (N 2/) manganese concretions in the matrix; moderately acid; gradual smooth boundary.

Btg3—38 to 46 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; very few fine roots between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; common fine black (N 2/) manganese concretions in the matrix; moderately acid; gradual wavy boundary.

Cg1—46 to 63 inches; light brownish gray (2.5Y 6/2) silty clay loam; massive; firm; few very fine roots between peds; very few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR

5/6) masses of iron accumulation throughout; few medium black (N 2/) manganese concretions in the matrix; slightly acid; diffuse wavy boundary.

Cg2—63 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; firm; very few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) masses of iron and manganese and common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; few medium black (N 2/) manganese concretions in the matrix; slightly acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 40 to 65 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Eg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam or silty clay loam

## 45A—Denny silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Depressions

### Map Unit Composition

Denny and similar soils: 100 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a darker subsurface layer
- Soils that have less clay in the subsoil

### Properties and Qualities of the Denny Soil

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 1 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Drury Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Dystric Eutrudepts

### **Typical Pedon**

Drury silt loam, 0 to 2 percent slopes, rarely flooded, at an elevation of about 465 feet; Monroe County, Illinois; approximately 2,310 feet north and 1,980 feet west of the southeast corner of sec. 35, T. 3 S., R. 11 W.; USGS Selma, Illinois-Missouri, topographic quadrangle; lat. 38 degrees 13 minutes 52 seconds N. and long. 90 degrees 16 minutes 54 seconds W.; UTM zone 15, 737922E 4234958N, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common very fine and few fine roots; neutral; abrupt smooth boundary.

Bw1—7 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine subangular blocky structure; friable; few very fine and fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; clear smooth boundary.

Bw2—12 to 19 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw3—19 to 26 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw4—26 to 36 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine and fine roots; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

Bw5—36 to 43 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few very fine roots; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds and lining pores; neutral; gradual smooth boundary.

C1—43 to 70 inches; dark yellowish brown (10YR 4/4) silt loam; massive; very friable; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the

matrix; few fine rounded prominent black (N 2.5/) masses of manganese accumulation; neutral; gradual smooth boundary.  
 C2—70 to 80 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; few fine rounded prominent black (N 2.5/) masses of manganese accumulation; neutral.

### **Range in Characteristics**

*Depth to the base of diagnostic horizon:* 26 to 55 inches

*Ap or A horizon(s):*

Hue—10YR  
 Value—3 or 4  
 Chroma—2 to 4  
 Texture—silt loam

*E horizon(s) (where present):*

Hue—10YR  
 Value—4 or 5 (6 or 7 dry)  
 Chroma—3 or 4  
 Texture—silt loam

*Bw horizon(s):*

Hue—7.5YR or 10YR  
 Value—4 or 5  
 Chroma—3 to 6 in the upper part; 2 to 6 in the lower part  
 Texture—silt loam

*C horizon(s):*

Hue—10YR  
 Value—3 to 6  
 Chroma—2 to 4  
 Texture—silt loam or silt loam with strata of loam

## **75C—Drury silt loam, 5 to 10 percent slopes**

### ***Setting***

*Landform:* Alluvial fans

### ***Map Unit Composition***

Drury and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the subsoil
- Soils that have gravel in the lower part of the subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The moderately well drained Blyton soils on flood plains
- Soils that are subject to rare flooding; at the base of slopes

### ***Properties and Qualities of the Drury Soil***

*Parent material:* Local silty alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **7075B—Drury silt loam, 2 to 5 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Alluvial fans

### ***Map Unit Composition***

Drury and similar soils: 97 percent  
 Dissimilar soils: 3 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil
- Soils that have more gravel in the lower part of the subsoil
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have a darker surface layer
- Soils that have slopes of more than 5 percent

#### ***Dissimilar soils:***

- The somewhat poorly drained Kendall soils in the less sloping areas
- The somewhat poorly drained Wakeland soils in the lower areas
- The moderately well drained Blyton soils in the lower areas

### ***Properties and Qualities of the Drury Soil***

*Parent material:* Local silty alluvium  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Dupo Series**

*Taxonomic classification:* Coarse-silty over clayey, mixed over smectitic, superactive, nonacid, mesic Aquic Udifluvents

### **Typical Pedon**

Dupo silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 470 feet; Adams County, Illinois; 800 feet south and 2,100 feet east of the northwest corner of sec. 14, T. 1 N., R. 9 W.; USGS Long Island, Illinois, topographic quadrangle; lat. 40 degrees 04 minutes 47 seconds N. and long. 91 degrees 24 minutes 42 seconds W.; UTM zone 15, 635412E 4437819N, NAD 83:

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; few very fine roots; common fine faint black (10YR 2/1) masses of manganese accumulation between peds; slightly acid; clear smooth boundary.

C—7 to 25 inches; stratified, 60 percent brown (10YR 4/3), 15 percent brown (10YR 5/3), and 15 percent dark grayish brown (10YR 4/2) silt loam; massive; friable; few very fine roots; common fine and medium faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

Cg—25 to 36 inches; stratified, 80 percent dark gray (10YR 4/1) and 15 percent brown (10YR 5/3) silt loam; massive; friable; common fine and medium distinct dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

2Ab—36 to 51 inches; very dark gray (10YR 3/1) silty clay; weak fine prismatic structure; firm; slightly alkaline; clear smooth boundary.

2Bgb1—51 to 72 inches; dark gray (5Y 4/1) silty clay; moderate medium prismatic structure; firm; common fine prominent brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

2Bgb2—72 to 85 inches; gray (5Y 5/1) silty clay; weak medium prismatic structure; firm; common fine prominent black (10YR 2/1) masses of manganese accumulation and many fine and medium prominent brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; neutral.

### **Range in Characteristics**

*Depth to a buried soil:* 20 to 40 inches

*Ap or A horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*C or Cg horizon(s):*

Hue—10YR  
 Value—4 to 6  
 Chroma—1 to 3  
 Texture—silt loam; strata of silt in some pedons

*2Ab horizon(s):*

Hue—10YR or N  
 Value—2 to 4  
 Chroma—0 to 2  
 Texture—silty clay, clay, or silty clay loam

*2Bgb or 2Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
 Value—3 to 6  
 Chroma—1 or 2  
 Texture—silty clay, clay, or silty clay loam

## **8180A—Dupo silt loam, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Dupo and similar soils: 90 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the buried soil layers
- Soils that have a buried soil at a depth of more than 40 inches
- Soils that have a buried soil at a depth of less than 20 inches

*Dissimilar soils:*

- The well drained Jules soils in the higher positions
- The poorly drained Darwin soils in depressions

### ***Properties and Qualities of the Dupo Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 1 to 2 feet

*Frequency and most likely period of flooding:* Occasional, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Elco Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

#### **Typical Pedon**

Elco silt loam, 10 to 18 percent slopes, at an elevation of about 575 feet; Sangamon County, Illinois; 2,520 feet east and 2,200 feet south of the northwest corner of sec. 35, T. 15 N., R. 4 W.; USGS New City, Illinois, topographic quadrangle; lat. 39 degrees 42 minutes 26 seconds N. and long. 89 degrees 30 minutes 27 seconds W.; UTM zone 16, 285029E 4398275N, NAD 83:

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; strong very fine granular structure; friable; many roots throughout; slightly acid; clear smooth boundary.

E—4 to 12 inches; brown (10YR 4/3) silt loam; weak thin platy structure parting to moderate very fine granular; friable; many distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and lining pores; few distinct yellowish brown (10YR 5/4) flecks and fragments of subsoil material; slightly acid; clear smooth boundary.

BE—12 to 15 inches; yellowish brown (10YR 5/4) silt loam; moderate very fine and fine subangular blocky structure; friable; few distinct dark brown (10YR 3/3) organic coatings and very few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine prominent black (5YR 2.5/1) manganese concretions throughout; slightly acid; clear smooth boundary.

Bt—15 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct grayish brown (10YR 5/2) iron depletions along micropores; few fine prominent black (5YR 2.5/1) manganese concretions throughout; slightly acid; clear smooth boundary.

2Btg1—26 to 39 inches; grayish brown (2.5Y 5/2) and yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse subangular and angular blocky structure; firm; common distinct olive brown (2.5Y 4/4) and brown (10YR 4/3) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common very fine prominent black (5YR 2.5/1) manganese concretions throughout; slightly acid; gradual smooth boundary.

3Btg2—39 to 55 inches; grayish brown (2.5Y 5/2) and yellowish brown (10YR 5/6) silty clay; weak medium prismatic structure parting to moderate coarse subangular and angular blocky; firm; many distinct gray (5Y 5/1) clay films on faces of peds; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; few fine black (5YR 2.5/1) manganese concretions throughout; slightly acid; clear smooth boundary.

3Btg3—55 to 70 inches; grayish brown (2.5Y 5/2) silty clay; moderate fine and medium subangular and angular blocky structure; friable; common distinct gray (5Y 5/1) clay films on faces of peds and in pores; common fine prominent strong brown

(7.5YR 5/6) masses of iron accumulation in the matrix; few fine black (5YR 2.5/1) manganese concretions throughout; slightly acid; clear smooth boundary.  
 3Btg4—70 to 80 inches; gray (5Y 5/1) silty clay; moderate coarse subangular blocky structure; firm; common prominent greenish gray (5GY 5/1) clay films on faces of pedes; few prominent black (10YR 2/1) organic coatings in root channels and pores; many fine prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few fine black (5YR 2.5/1) manganese concretions throughout; slightly alkaline.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* More than 48 inches

*Thickness of the loess:* 20 to 40 inches

*Ap or A horizon(s):*

Hue—10YR

Value—3 or 4

Chroma—1 or 2

Texture—silt loam or silty clay loam

*E horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam

*BE horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silty clay loam

*Bt horizon(s):*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—2 to 6

Texture—silty clay loam or silt loam

*2Btg horizon or 2Bt horizon (where present):*

Hue—5Y, 2.5Y, 10YR, or 7.5YR

Value—3 to 6

Chroma—1 to 6

Texture—loam, clay loam, silty clay loam, or silt loam

*3Btg horizon or 3Bt horizon (where present):*

Hue—5Y, 2.5Y, 10YR, or 7.5YR

Value—3 to 6

Chroma—1 to 6

Texture—loam, clay loam, silty clay loam, silty clay, or clay

## 119C2—Elco silt loam, 5 to 10 percent slopes, eroded

### Setting

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Elco and similar soils: 97 percent

Dissimilar soils: 3 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 2.0 feet
- Soils that have a darker surface layer

#### *Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **119C3—Elco silty clay loam, 5 to 10 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Elco and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay in the lower part of the subsoil

- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 2.0 feet
- Soils that have a darker surface layer

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Very low

***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**119D2—Elco silt loam, 10 to 18 percent slopes, eroded**

***Setting***

*Landform:* Ground moraines (fig. 5, fig. 6)

*Position on the landform:* Shoulders and backslopes

***Map Unit Composition***

Elco and similar soils: 94 percent

Dissimilar soils: 6 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have more clay in the surface layer
- Soils that have more sand in the upper part of the subsoil
- Soils that have more clay in the upper part of the subsoil
- Soils that have less clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes
- The well drained Rozetta soils on summits
- The moderately well drained Homen and Winfield soils on summits

### ***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over paleosol that formed in till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **119D3—Elco silty clay loam, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Elco and similar soils: 95 percent  
 Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have less clay in the surface layer
- Soils that have more sand in the upper part of the subsoil
- Soils that have more clay in the upper part of the subsoil
- Soils that have less clay in the lower part of the subsoil

#### *Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes
- The well drained Rozetta soils on summits
- The moderately well drained Homen and Winfield soils on summits

### ***Properties and Qualities of the Elco Soil***

*Parent material:* Loess over paleosol that formed in till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Elsah Series**

*Taxonomic classification:* Loamy-skeletal, mixed, superactive, nonacid, mesic Typic Udifluvents

### **Typical Pedon**

Elsah gravelly loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 540 feet; Pike County, Illinois; 1,900 feet south and 1,450 feet west of the northeast corner of sec. 8, T. 5 S., R. 6 W.; USGS Barry, Illinois, topographic quadrangle; lat. 39 degrees 38 minutes 55 seconds N. and long. 91 degrees 06 minutes 36 seconds W.; UTM zone 15, 662147E 4390469N, NAD 83:

A—0 to 6 inches; 70 percent brown (10YR 5/3) and 30 percent dark brown (10YR 3/3) gravelly loam, light yellowish brown (10YR 6/4) dry; weak medium granular structure; friable; many fine and common coarse roots; 20 percent chert gravel; neutral; clear wavy boundary.

C1—6 to 12 inches; brown (10YR 5/3) very gravelly loam; massive; friable; common fine and few coarse roots; 25 percent chert gravel and 15 percent cobbles; slightly effervescent; slightly alkaline; clear wavy boundary.

C2—12 to 29 inches; yellowish brown (10YR 5/6) very gravelly sandy loam; massive; very friable; few medium and coarse roots; 40 percent chert gravel and 15 percent cobbles; slightly alkaline; gradual wavy boundary.

C3—29 to 42 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam; massive; friable; few fine and medium roots; 40 percent chert gravel and 10 percent cobbles; slightly alkaline; clear wavy boundary.

C4—42 to 56 inches; stratified, 60 percent yellowish brown (10YR 5/6) and 40 percent brown (10YR 5/3) gravelly loam; massive; friable; 20 percent chert gravel and 5 percent cobbles; slightly effervescent; slightly alkaline; clear wavy boundary.

C5—56 to 60 inches; yellowish brown (10YR 5/6) very gravelly sandy loam; massive; very friable; 45 percent chert gravel and 10 percent cobbles; neutral.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* 6 to 18 inches

*Ap or A horizon(s):*

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—2 to 4

Texture—silt loam or loam  
 Content of rock fragments—0 to 60 percent

*C horizon(s):*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—silt loam, loam, or sandy loam  
 Content of rock fragments—5 to 85 percent

## **3475A—Elsah gravelly loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains (fig. 8)

### ***Map Unit Composition***

Elsah and similar soils: 90 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are not frequently flooded
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The somewhat poorly drained Wakeland soils in the slightly lower positions farther from stream channels
- The moderately well drained Blyton soils in positions farther from stream channels
- The well drained Drury soils in the higher positions

### ***Properties and Qualities of the Elsah Soil***

*Parent material:* Gravelly alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderately rapid or rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

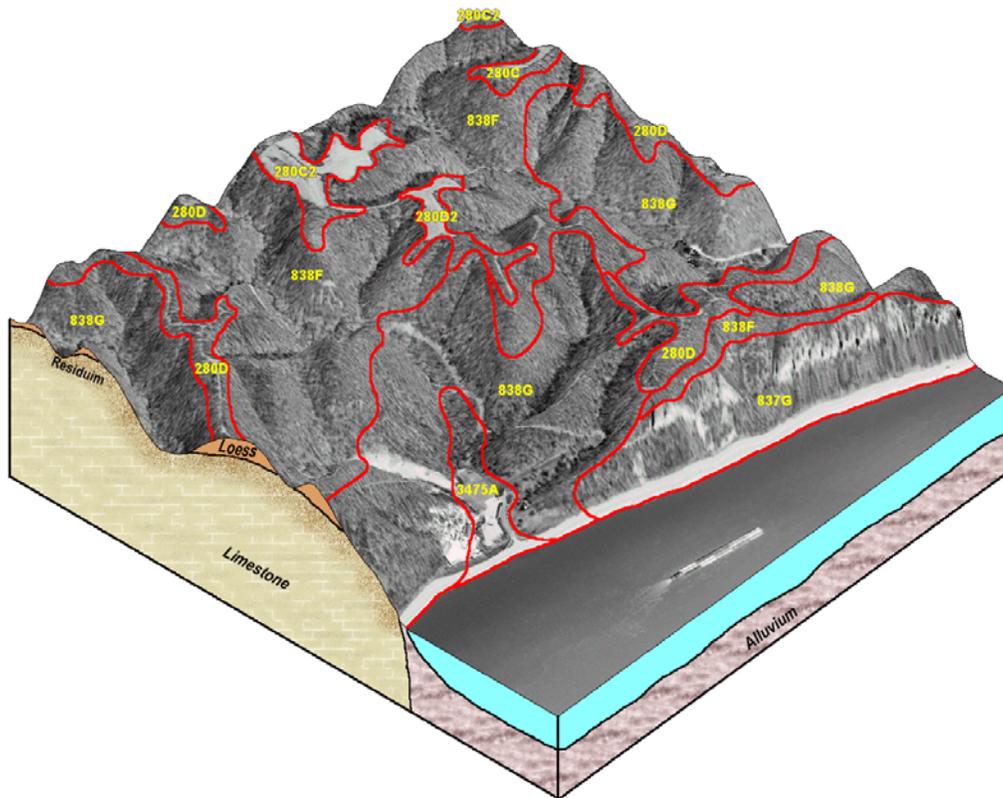


Figure 8.—Typical pattern of moderately sloping to very steep upland soils along the Mississippi River. These soils formed in loess, in material weathered from limestone, or in limestone colluvium.

## ***Emery Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

### **Typical Pedon**

Emery silt loam, 2 to 5 percent slopes, eroded, at an elevation of 740 feet; Adams County, Illinois; 850 feet north and 250 feet east of the southwest corner of sec. 27, T. 2 S., R. 7 W.; USGS Payson, Illinois, topographic quadrangle; lat. 39 degrees 51 minutes 44 seconds N. and long. 91 degrees 12 minutes 12 seconds W.; UTM zone 15, 653675E 4414014N, NAD 83:

Ap—0 to 7 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; very friable; common fine and medium roots throughout; many fine and medium moderate-continuity tubular pores; few distinct light brownish gray (10YR 6/2) clay depletions throughout; slightly acid; clear smooth boundary.

Bt1—7 to 18 inches; olive brown (2.5Y 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots throughout; common fine and medium moderate-continuity tubular pores; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout, common fine and medium distinct black (2.5Y 2/1) masses of manganese accumulation throughout, and common fine distinct gray (10YR 6/1) iron depletions throughout; slightly acid; clear smooth boundary.

- Bt2—18 to 26 inches; olive brown (2.5Y 4/3) silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots throughout; common fine and medium moderate-continuity tubular pores; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine and medium distinct dark yellowish brown (10YR 4/6) masses of iron and manganese accumulation throughout, common fine and medium distinct black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine distinct gray (10YR 6/1) iron depletions throughout; slightly acid; clear smooth boundary.
- Btg1—26 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium subangular blocky structure; friable; common fine and medium roots throughout; common fine and medium continuous tubular pores; very few distinct gray (10YR 5/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium distinct black (2.5Y 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.
- Btg2—37 to 45 inches; light brownish gray (10YR 6/2) silt loam; weak medium subangular blocky structure; friable; very few distinct gray (10YR 5/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium distinct black (2.5Y 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.
- 2Btg3—45 to 55 inches; gray (10YR 6/1) silt loam; weak medium and coarse subangular blocky structure; friable; very few distinct gray (10YR 5/1) clay films on faces of peds; common fine and medium prominent brownish yellow (10YR 6/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.
- 2BCtg—55 to 67 inches; gray (10YR 5/1) silt loam; weak coarse subangular blocky structure; friable; very few distinct gray (10YR 5/1) clay films on faces of peds; common fine and medium distinct light yellowish brown (10YR 6/4) masses of iron and manganese accumulation throughout; slightly acid; clear smooth boundary.
- 2Cg—67 to 87 inches; grayish brown (10YR 5/2) silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium distinct black (2.5Y 2/1) masses of manganese accumulation throughout; slightly acid.

### Range in Characteristics

*Thickness of the loess:* 30 to 50 inches

*Depth to the base of the diagnostic horizon:* 40 to 60 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt, Btg, or 2Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam, silt loam, or clay loam

*2BCtg or 2Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam, silt loam, loam, or clay loam

## 538B2—Emery silt loam, 2 to 5 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Emery and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material and have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil

#### *Dissimilar soils:*

- The well drained Osco soils on summits

### *Properties and Qualities of the Emery Soil*

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 538C2—Emery silt loam, 5 to 10 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Emery and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material and have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have a lighter colored surface layer
- Soils that have more clay in the lower part of the subsoil

#### *Dissimilar soils:*

- The well drained Osco soils on summits

### ***Properties and Qualities of the Emery Soil***

*Parent material:* Loess over silty pedisegment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Fayette Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### ***Typical Pedon***

Fayette silt loam, 10 to 18 percent slopes, eroded, at an elevation of 685 feet; Warren County, Illinois; 2,100 feet north and 1,700 feet west of the southeast corner of sec. 31, T. 12 N., R. 3 W.; USGS Rozetta, Illinois, topographic quadrangle; lat. 40 degrees 59 minutes 13 seconds N. and long. 90 degrees 46 minutes 18 seconds W.; UTM zone 15, 687438E 4539703N, NAD 83:

Ap—0 to 5 inches; mixed dark grayish brown (10YR 4/2) and yellowish brown (10YR 5/4) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common fine roots throughout; moderately acid; clear smooth boundary.

EB—5 to 9 inches; mixed brown (10YR 5/3) and yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to moderate fine subangular blocky; friable;

- common fine roots between peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots between peds; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—13 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; gradual smooth boundary.
- Bt3—27 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulation on faces of peds; moderately acid; gradual wavy boundary.
- BC—38 to 55 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct dark brown (7.5YR 3/2) masses of iron and manganese accumulations on faces of peds; moderately acid; clear wavy boundary.
- C—55 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few distinct dark brown (7.5YR 3/2) iron and manganese concretions in the matrix; moderately acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 36 to 70 inches

*Other features:* Some pedons have a BE horizon.

*Ap or A horizon(s):*

Hue—10YR

Value—2 to 4

Chroma—1 to 3

Texture—silt loam or silty clay loam

*E horizon(s) (where present):*

Hue—10YR

Value—4 or 5

Chroma—1 to 4

Texture—silt loam

*Bt horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

*C horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—4 to 6

Texture—silt loam

## 280B—Fayette silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines (fig. 7)

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Fayette and similar soils: 97 percent

Dissimilar soils: 3 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have a thinner surface layer
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atterberry and Stronghurst soils in the less sloping positions

### *Properties and Qualities of the Fayette Soil*

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 280C—Fayette silt loam, 5 to 10 percent slopes

### *Setting*

*Landform:* Ground moraines (fig. 8)

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280C2—Fayette silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines (fig. 7, fig. 8)

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280C3—Fayette silty clay loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have less clay in the surface layer
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **280D—Fayette silt loam, 10 to 18 percent slopes**

### ***Setting***

*Landform:* Loess hills; ground moraines (fig. 8)  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 92 percent  
 Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil

#### *Dissimilar soils:*

- The well drained Hickory soils in the lower positions on backslopes

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280D2—Fayette silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills (fig. 7, fig. 8)

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The well drained Hickory soils in the lower positions on backslopes

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280D3—Fayette silty clay loam, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the surface layer
- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have more sand and clay in the lower part of the subsoil
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Hickory soils in the lower positions on backslopes

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280E2—Fayette silt loam, 18 to 25 percent slopes, eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Fayette and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more rock fragments and clay in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have slopes of more than 25 percent

#### *Dissimilar soils:*

- The well drained Hickory soils in the lower positions on backslopes
- The well drained Goss soils in positions similar to those of the Fayette soil

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **280F—Fayette silt loam, 18 to 35 percent slopes**

### **Setting**

*Landform:* Loess hills; ground moraines (fig. 7)

*Position on the landform:* Backslopes

### **Map Unit Composition**

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more rock fragments and clay in the lower part of the subsoil
- Soils that have more clay in the surface layer

- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have slopes of more than 35 percent
- Soils that have more sand throughout

*Dissimilar soils:*

- The well drained Goss soils in positions similar to those of the Fayette soil

***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**838F—Fayette-Goss complex, 18 to 35 percent slopes**

***Setting***

*Landform:* Hillslopes (fig. 7, fig. 8)

*Position on the landform:* Backslopes

***Map Unit Composition***

Fayette and similar soils: 60 percent

Goss and similar soils: 30 percent

Dissimilar components: 10 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Fayette—6e; Goss—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Goss—not hydric

## **838F2—Fayette-Goss complex, 18 to 35 percent slopes, eroded**

### ***Setting***

*Landform:* Hillslopes  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Fayette and similar soils: 60 percent  
 Goss and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil

- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* Fayette—6e; Goss—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Fayette—not hydric; Goss—not hydric

**838G—Goss-Fayette complex, 35 to 60 percent slopes**

***Setting***

*Landform:* Hillslopes (fig. 7, fig. 8)

*Position on the landform:* Backslopes

### **Map Unit Composition**

Goss and similar soils: 60 percent  
 Fayette and similar soils: 30 percent  
 Dissimilar components: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have slopes of less than 35 percent
- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of less than 40 inches

#### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

### **Properties and Qualities of the Goss Soil**

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Goss—7e; Fayette—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Goss—not hydric; Fayette—not hydric

## **Fosterburg Series**

*Taxonomic classification:* Fine, smectitic, mesic Vertic Argiaquolls

### **Typical Pedon**

Fosterburg silt loam, in an area of Virden-Fosterburg silt loams, 0 to 2 percent slopes, at an elevation of about 510 feet; St. Clair County, Illinois; approximately 125 feet south and 2,500 feet west of the northeast corner of sec. 36, T. 2 N., R. 6 W.; USGS Trenton, Illinois, topographic quadrangle; lat. 38 degrees 34 minutes 55 seconds N. and long. 89 degrees 42 minutes 22 seconds W.; UTM zone 16, 264273E 4273865N, NAD 83:

- Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to strong fine granular; friable; many very fine roots; few fine rounded black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.
- A—8 to 13 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine angular and subangular blocky structure; friable; many very fine roots; few fine rounded black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.
- BA—13 to 20 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; firm; common very fine roots; many faint black (10YR 2/1) organic coatings on faces of peds; few fine and medium rounded black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 4/6) boundaries; neutral; clear smooth boundary.
- Btkng1—20 to 29 inches; dark gray (2.5Y 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine and medium angular blocky; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/4) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; common fine irregular white (10YR 8/1) (dry) masses of carbonate accumulation and common medium irregular light brownish gray (10YR 6/2) carbonate concretions with clear white (10YR 8/1) (dry) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.
- Btkng2—29 to 41 inches; dark gray (2.5Y 4/1) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few medium rounded black (N 2.5/) manganese nodules with sharp boundaries; few fine irregular white (10YR 8/1) (dry) masses of carbonate accumulation and few medium irregular light brownish gray (10YR 6/2) carbonate concretions with clear white (10YR 8/1) (dry) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.
- Btg1—41 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few medium rounded black (N 2.5/) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.
- Btg2—50 to 62 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse subangular blocky; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; many fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (N 2.5/) manganese

nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

**BCtg**—62 to 71 inches; olive gray (5Y 5/2) silt loam; weak medium prismatic structure; friable; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on vertical faces of peds; many medium prominent strong brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (N 2.5/) manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; neutral; gradual smooth boundary.

**Cg**—71 to 80 inches; light olive gray (5Y 6/2) silt loam; massive; friable; few distinct very dark gray (2.5Y 3/1) organo-clay films lining root channels; common fine and medium prominent reddish yellow (7.5YR 6/8) masses of iron accumulation in the matrix; few medium irregular black (N 2.5/) manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; neutral.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 40 to 72 inches

*Thickness of the mollic epipedon:* 10 to 20 inches

*Ap and A horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3 (3 or 4 dry)

Chroma—0 or 1

Texture—silt loam or silty clay loam

*Btkng, BA, BCtg, or Btg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam, silty clay, or silt loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—5 or 6

Chroma—0 to 2

Texture—silt loam

## 885A—Virden-Fosterburg silt loams, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

### Map Unit Composition

Virden and similar soils: 50 percent

Fosterburg and similar soils: 50 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil and a lighter colored subsurface layer
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer

### ***Properties and Qualities of the Virden Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Fosterburg Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Sodium content:* Moderate within a depth of 30 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Virden—2w; Fosterburg—3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Virden—hydric; Fosterburg—hydric

## ***Geff Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Hapludalfs

### ***Typical Pedon***

Geff silt loam, 0 to 2 percent slopes, at an elevation of 385 feet; Wayne County, Illinois; 1,900 feet east and 60 feet north of the southwest corner of sec. 33, T. 1 S., R. 9 E.; USGS Albion NW, Illinois, topographic quadrangle; lat. 38 degrees 23 minutes 11 seconds N. and long. 88 degrees 12 minutes 57 seconds W.; UTM zone 16, 393814E 4249387N, NAD 83:

- Ap—0 to 10 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; common very fine roots; few fine rounded very dark grayish brown (10YR 3/2) iron and manganese concretions; neutral; abrupt smooth boundary.
- E—10 to 15 inches; brown (10YR 5/3) silt loam; weak thick platy structure parting to weak fine and medium subangular blocky; friable; common very fine roots; common distinct grayish brown (10YR 5/2) coatings on faces of peds; common faint light gray (10YR 7/2) clay depletions on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; few fine rounded very dark grayish brown (10YR 3/2) iron and manganese concretions; slightly acid; clear smooth boundary.
- Bt1—15 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 5/3) clay films on faces of peds; few distinct light gray (10YR 7/2) clay depletions on faces of peds; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; few fine rounded very dark grayish brown (10YR 3/2) iron and manganese concretions; very strongly acid; clear smooth boundary.
- Bt2—21 to 35 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; common very fine roots; many distinct brown (10YR 5/3) clay films and common distinct light gray (10YR 7/2) clay depletions on faces of peds; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine rounded very dark grayish brown (10YR 3/2) iron and manganese concretions; very strongly acid; clear wavy boundary.
- 2Bt3—35 to 49 inches; variegated yellowish brown (10YR 5/4 and 5/8) and light brownish gray (10YR 6/2) silt loam; moderate medium prismatic structure; friable; very few fine roots; common distinct brown (10YR 5/3) clay films on faces of peds; common fine rounded very dark grayish brown (10YR 3/2) iron and manganese concretions; 15 to 30 percent sand; content of sand increases with increasing depth; moderately acid; clear smooth boundary.
- 2Bt4—49 to 60 inches; yellowish brown (10YR 5/6), stratified loam and sandy loam; weak coarse prismatic structure; friable; few very fine roots; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions and few fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; slightly acid; gradual wavy boundary.
- 3E and Bt—60 to 80 inches; yellowish brown (10YR 5/6) loamy sand (E); brown (7.5YR 4/4) sandy loam lamellae (Bt); single grain and loose (E); massive and very friable (Bt); few distinct brown (7.5YR 4/4) clay films occurring as bridges between sand grains (Bt); moderately acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 50 to more than 80 inches

*Depth to loamy outwash:* 24 to 40 inches

*Ap or A horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*E and/or BE horizon(s):*

Hue—10YR

Value—5 or 6

Chroma—2 or 3  
Texture—silt loam

*Bt horizon(s):*

Hue—10YR  
Value—4 to 6  
Chroma—2 to 4  
Texture—silty clay loam

*2Bt and/or 2BC horizon(s):*

Hue—2.5Y, 10YR, or 7.5YR  
Value—4 to 6  
Chroma—1 to 6  
Texture—stratified silt loam, loam, clay loam, and sandy loam

*3E and Bt horizon(s):*

Hue—2.5Y, 10YR, or 7.5YR  
Value—4 to 6  
Chroma—1 to 6  
Texture—sand to sandy loam

## **7432A—Geff silt loam, 0 to 2 percent slopes, rarely flooded**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Geff and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more clay in the subsoil
- Soils that have less sand in the lower part of the subsoil and in the underlying material

*Dissimilar soils:*

- The well drained Drury and Ridgway soils in the more sloping positions

### ***Properties and Qualities of the Geff Soil***

*Parent material:* Loess over outwash

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate to rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Goss Series**

*Taxonomic classification:* Clayey-skeletal, mixed, active, mesic Typic Paleudalfs

### **Typical Pedon**

Goss gravelly silt loam, 35 to 60 percent slopes, at an elevation of 615 feet; Adams County, Illinois; 2,560 feet east and 25 feet south of the northwest corner of sec. 30, T. 3 S., R. 6 W.; USGS Payson, Illinois, topographic quadrangle; lat. 39 degrees 47 minutes 12 seconds N. and long. 91 degrees 08 minutes 17 seconds W.; UTM zone 15, 659422E 4405743N, NAD 83:

- A—0 to 7 inches; brown (7.5YR 4/2) gravelly silt loam, pinkish gray (7.5YR 6/2) dry; weak fine granular structure; friable; 20 percent cherty gravel; slightly acid; clear wavy boundary.
- BE—7 to 11 inches; reddish brown (5YR 4/4) gravelly silt loam; moderate very fine angular blocky structure; firm; few faint brown (7.5YR 4/3) clay films throughout; 20 percent cherty gravel; moderately acid; clear wavy boundary.
- 2Bt1—11 to 19 inches; reddish brown (5YR 4/4) very gravelly silty clay; moderate very fine angular blocky structure; firm; common faint reddish brown (5YR 4/3) clay films on faces of peds and few faint brown (7.5YR 4/3) clay films throughout; 50 percent cherty gravel and cobbles; moderately acid; gradual wavy boundary.
- 2Bt2—19 to 30 inches; reddish brown (5YR 4/4) very gravelly silty clay; moderate very fine angular blocky structure; firm; common faint reddish brown (5YR 4/3) clay films on faces of peds; 50 percent cherty gravel and cobbles; strongly acid; gradual wavy boundary.
- 2Bt3—30 to 47 inches; reddish brown (5YR 4/4) very gravelly clay; moderate very fine angular blocky structure; firm; few faint reddish brown (2.5YR 4/4) clay films on faces of peds; 50 percent cherty gravel and cobbles; strongly acid; gradual wavy boundary.
- 2Bt4—47 to 62 inches; reddish brown (5YR 4/4) very gravelly clay; moderate very fine angular blocky structure; firm; few faint reddish brown (5YR 4/3) clay films on faces of peds; 55 percent cherty gravel and cobbles; strongly acid; gradual wavy boundary.
- 2Bt5—62 to 80 inches; 49 percent yellowish red (5YR 5/6) and 49 percent dark reddish brown (5YR 3/3) very gravelly clay; moderate very fine angular blocky structure; firm; few distinct reddish brown (5YR 4/3) clay films on faces of peds; 55 percent cherty gravel and cobbles; strongly acid.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* More than 60 inches

*Ap or A horizon(s):*

Hue—10YR or 7.5YR

Value—2 to 4

Chroma—2 to 4

Texture—silt loam or loam  
 Content of rock fragments—0 to 60 percent

*E horizon(s) (where present):*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 or 4  
 Texture—silt loam, loam, or silty clay loam  
 Content of rock fragments—15 to more than 60 percent

*2Bt horizon(s):*

Hue—10YR to 5YR  
 Value—3 to 5  
 Chroma—4 to 8  
 Texture—silty clay loam, silty clay, or clay  
 Content of rock fragments—15 to more than 60 percent

## **833F—Menfro-Goss complex, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Hillslopes

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Menfro and similar soils: 60 percent

Goss and similar soils: 30 percent

Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Menfro—6e; Goss—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Menfro—not hydric; Goss—not hydric

## **833F2—Menfro-Goss complex, 18 to 35 percent slopes, eroded**

### ***Setting***

*Landform:* Hillslopes  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Menfro and similar soils: 60 percent  
 Goss and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

#### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Menfro—6e; Goss—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Menfro—not hydric; Goss—not hydric

## **833G—Goss-Menfro complex, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Hillslopes  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Goss and similar soils: 60 percent  
 Menfro and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have slopes of less than 35 percent
- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of less than 40 inches

#### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Goss—7e; Menfro—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Goss—not hydric; Menfro—not hydric

## **838F—Fayette-Goss complex, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Hillslopes (fig. 7, fig. 8)  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Fayette and similar soils: 60 percent  
 Goss and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of more than 35 percent

- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* Fayette—6e; Goss—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Fayette—not hydric; Goss—not hydric

**838F2—Fayette-Goss complex, 18 to 35 percent slopes,  
eroded**

***Setting***

*Landform:* Hillslopes

*Position on the landform:* Backslopes

### **Map Unit Composition**

Fayette and similar soils: 60 percent

Goss and similar soils: 30 percent

Dissimilar components: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

#### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Goss Soil**

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Fayette—6e; Goss—7e

*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Fayette—not hydric; Goss—not hydric

## **838G—Goss-Fayette complex, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Hillslopes (fig. 7, fig. 8)  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Goss and similar soils: 60 percent  
 Fayette and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have slopes of less than 35 percent
- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of less than 40 inches

#### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- The well drained Fayette soils on the less sloping summits and shoulders

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Fayette Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Goss—7e; Fayette—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Goss—not hydric; Fayette—not hydric

## **Greenbush Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

### **Typical Pedon**

Greenbush silt loam, 2 to 5 percent slopes, at an elevation of 700 feet; Warren County, Illinois; 1,500 feet west and 1,500 feet north of the southeast corner of sec. 18, T. 8 N., R. 1 W.; USGS Greenbush, Illinois, topographic quadrangle; lat. 40 degrees 40 minutes 40 seconds N. and long. 90 degrees 32 minutes 47 seconds W.; UTM zone 15, 707400E 4505889N, NAD 83:

- Ap—0 to 6 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.
- E—6 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak thin platy structure; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; abrupt smooth boundary.
- BE—10 to 17 inches; brown (10YR 4/3) silt loam; moderate medium platy structure parting to weak fine subangular blocky; friable; few distinct very dark gray (10YR 3/1) organic coatings and common distinct gray (10YR 6/1) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—17 to 29 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct gray (10YR 6/1) silt coatings on faces of peds; strongly acid; gradual smooth boundary.
- Bt2—29 to 38 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many faint light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2.5/1) manganese oxide stains; strongly acid; gradual wavy boundary.
- Bt3—38 to 53 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2.5/1) manganese oxide stains; strongly acid; gradual wavy boundary.
- BCt—53 to 75 inches; brown (10YR 5/3) and light olive gray (5Y 6/2) silt loam; weak medium and coarse prismatic structure parting to weak fine and medium angular blocky; friable; few faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common prominent

black (7.5YR 2.5/1) manganese oxide stains; moderately acid; gradual wavy boundary.

C—75 to 100 inches; yellowish brown (10YR 5/4) and light olive gray (5Y 6/2) silt loam; massive; friable; many medium distinct light brownish gray (10YR 6/2) iron depletions; many prominent black (7.5YR 2.5/1) manganese oxide stains; moderately acid.

### Range in Characteristics

*Depth to carbonates:* More than 60 inches

*Depth to the base of the argillic horizon:* 36 to 70 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

Texture—silt loam

*Bt horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam

*C horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

## 675B—Greenbush silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Summits and shoulders

### Map Unit Composition

Greenbush and similar soils: 95 percent

Dissimilar soils: 5 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a thicker dark surface soil
- Soils that have more sand in the lower part of the subsoil
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atterberry and Muscatune soils in the less sloping areas
- The somewhat poorly drained Emery soils on backslopes

### ***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **675C2—Greenbush silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Greenbush and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 6 feet
- Soils that have a thicker dark surface soil
- Soils that have more sand in the lower part of the subsoil
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The somewhat poorly drained Emery soils in positions similar to those of the Greenbush soil

### ***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Hamburg Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents

### **Typical Pedon**

Hamburg silt loam, 35 to 60 percent slopes, at an elevation of 620 feet; Cass County, Illinois; 450 feet north and 810 feet west of the center of sec. 5, T. 18 N., R. 9 W.; USGS Chandlerville, Illinois, topographic quadrangle; lat. 40 degrees 02 minutes 28 seconds N. and long. 90 degrees 08 minutes 16 seconds W.; UTM zone 15, 744179E 4436251N, NAD 83:

A—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine and medium granular structure; friable; common very fine roots throughout; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C1—7 to 11 inches; brown (10YR 4/3) silt loam; massive; friable; common very fine roots throughout; violently effervescent; moderately alkaline; clear smooth boundary.

C2—11 to 39 inches; yellowish brown (10YR 5/4) silt; massive; friable; few very fine roots throughout; violently effervescent; moderately alkaline; gradual smooth boundary.

C3—39 to 60 inches; light yellowish brown (10YR 6/4) silt; massive; friable; few very fine roots throughout; violently effervescent; moderately alkaline.

### **Range in Characteristics**

*Depth to carbonates:* Less than 6 inches

*Other features:* Some pedons have an AC horizon.

*A horizon(s):*

Hue—10YR

Value—3 or 4

Chroma—2 or 3

Texture—silt loam

*C horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silt loam, silt, or very fine sandy loam

## 836G—Hamburg-Lacrescent complex, 35 to 60 percent slopes

### **Setting**

*Landform:* Bluffs (fig. 7)

*Position on the landform:* Hamburg—backslopes; Lacrescent—backslopes and footslopes

### **Map Unit Composition**

Hamburg and similar soils: 55 percent

Lacrescent and similar soils: 35 percent

Dissimilar components: 10 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have carbonates below a depth of 20 inches
- Soils that have slopes of less than 35 percent

*Dissimilar components:*

- Areas of limestone bedrock outcrop; upslope from the Lacrescent soil and downslope from the Hamburg soil
- Areas of shale outcrop at the base of slopes

### **Properties and Qualities of the Hamburg Soil**

*Parent material:* Calcareous loess

*Drainage class:* Somewhat excessively drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Properties and Qualities of the Lacrescent Soil**

*Parent material:* Colluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* Hamburg—7e; Lacrescent—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hamburg—not hydric; Lacrescent—not hydric

## **Harrison Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls

### **Typical Pedon**

Harrison silt loam, 2 to 5 percent slopes, at an elevation of 665 feet; Christian County, Illinois; 228 feet north and 1,350 feet west of the southeast corner of sec. 24, T. 12 N., R. 2 W.; USGS Clarksdale, Illinois, topographic quadrangle; lat. 39 degrees 27 minutes 59 seconds N. and long. 89 degrees 15 minutes 17 seconds W.; UTM zone 16, 306031E 4370966N, NAD 83:

- Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine and few fine roots; slightly acid; abrupt smooth boundary.
- BA—10 to 14 inches; brown (10YR 4/3) silt loam; weak very fine and fine subangular blocky structure; friable; few very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—14 to 20 inches; brown (10YR 4/3) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) and few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation along micropores; few fine manganese accumulations in the matrix; moderately acid; clear smooth boundary.
- Bt2—20 to 27 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint brown (7.5YR 4/4), brown (10YR 5/3), and dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation along micropores; few fine manganese accumulations in the matrix; moderately acid; clear smooth boundary.
- Bt3—27 to 35 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine faint dark yellowish brown (10YR 4/4) and few fine faint brown (7.5YR 4/4) masses of iron and manganese accumulation along micropores; few fine manganese accumulations in the matrix; moderately acid; clear smooth boundary.
- Bt4—35 to 45 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; firm; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct grayish brown (10YR 5/2) iron depletions along micropores; common fine faint dark yellowish brown (10YR 4/4) and few fine faint brown (7.5YR 4/4) masses of iron and manganese accumulation in the matrix; few fine manganese accumulations in the matrix; moderately acid; clear smooth boundary.
- 2Btg—45 to 65 inches; grayish brown (10YR 5/2) silty clay loam; weak medium and coarse subangular blocky structure; firm; few distinct gray (10YR 5/1) clay films on

faces of peds; few fine faint brown (10YR 5/3), common fine and medium distinct dark yellowish brown (10YR 4/4), and few fine distinct brown (7.5YR 4/4) masses of iron and manganese accumulation in the matrix; few fine manganese accumulations in the matrix; about 15 percent sand; about 1 percent gravel; slightly acid; abrupt smooth boundary.

3Btgb—65 to 80 inches; grayish brown (2.5Y 5/2) clay loam; moderate coarse subangular blocky structure; firm; common distinct olive gray (5Y 4/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; few fine manganese accumulations in the matrix; about 5 percent gravel; neutral.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* More than 45 inches

*Thickness of the loess:* 40 to 60 inches

*Thickness of the mollic epipedon:* 10 to 19 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*AB or BA horizon(s):*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Texture—silt loam or silty clay loam

*Bt horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

*2Btg or 2BCg horizon(s):*

Hue—10YR, 7.5YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam, silt loam, loam, or clay loam

*3Btgb horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 3

Texture—clay loam, clay, silty clay, or silty clay loam

## 127B—Harrison silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Harrison and similar soils: 100 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have a thinner surface soil
- Soils that have less sand and less clay in the lower part of the subsoil and in the underlying material
- Soils that have a seasonal high water table at a depth of less than 2.0 feet
- Soils that have less clay in the lower part of the subsoil

### **Properties and Qualities of the Harrison Soil**

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Slow to moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Herrick Series**

*Taxonomic classification:* Fine, smectitic, mesic Aquic Argiudolls

### **Typical Pedon**

Herrick silt loam, 0 to 2 percent slopes, at an elevation of 635 feet; Christian County, Illinois; 1,260 feet south and 60 feet west of the northeast corner of sec. 1, T. 11 N., R. 3 W.; USGS Clarksdale, Illinois, topographic quadrangle; lat. 39 degrees 26 minutes 00 seconds N. and long. 89 degrees 21 minutes 57 seconds W.; UTM zone 16, 296395E 4367534N, NAD 83:

Ap1—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; very friable; common fine and very fine roots; common wormcasts and channels; common very dark gray (10YR 3/1) organic coatings on faces of peds and lining channels; light brownish gray (10YR 6/2) (dry) silt coatings and common very fine iron and manganese concretions on the soil surface; slightly acid; clear wavy boundary.

Ap2—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak coarse subangular blocky structure parting to weak fine granular; very friable; few fine and medium roots; common wormcasts and channels; common distinct very dark gray (10YR 3/1) organic coatings lining channels; few very fine iron and manganese accumulations; slightly acid; abrupt smooth boundary.

- E—11 to 15 inches; very dark grayish brown (10YR 3/2) silt loam, gray (10YR 5/1) dry; discontinuous weak thick platy structure parting to weak medium granular; friable; few fine roots; few medium worm channels; many distinct grayish brown (10YR 5/2) clay depletions on the surface of peds, distinct and light gray (10YR 7/1) dry; few fine iron and manganese concretions and common soft yellowish brown iron accumulations that streak with tools on cut faces; moderately acid; clear smooth boundary.
- Btg—15 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak very fine and fine prismatic structure parting to moderate fine and medium subangular blocky; friable; few fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on horizontal and vertical faces of peds; few very fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout; many distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine iron and manganese concretions and stains; moderately acid; clear smooth boundary.
- Bt1—19 to 25 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular and angular blocky; firm; few fine and very fine roots, dominantly between peds; many distinct very dark grayish brown (10YR 3/2) and common prominent very dark gray (10YR 3/1) organo-clay films and brown (10YR 4/3) clay films on vertical and horizontal faces of peds; common fine distinct yellowish brown (10YR 5/6) and common fine faint brown (7.5YR 4/4) masses of iron and manganese accumulation and few fine faint grayish brown (10YR 5/2) iron depletions throughout; few fine iron and manganese concretions; moderately acid; gradual smooth boundary.
- Bt2—25 to 35 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse prismatic structure parting to weak coarse subangular blocky; very firm; few fine and very fine roots, dominantly in the cracks between peds; many distinct very dark gray (10YR 3/1) organo-clay films on vertical and horizontal faces of peds; common medium distinct brown (7.5YR 4/4) masses of iron and manganese accumulation and few fine prominent grayish brown (10YR 5/2) iron depletions throughout; few iron and manganese concretions; moderately acid; gradual smooth boundary.
- Bt3—35 to 47 inches; yellowish brown (10YR 5/6) silty clay loam; moderate coarse prismatic structure parting to weak coarse subangular blocky; firm; few very fine roots; few very fine continuous vertical tubular pores; many distinct very dark grayish brown (10YR 3/2) organo-clay films on vertical faces of peds and lining pores and common distinct clay films on horizontal faces of peds; common fine prominent light brownish gray (2.5Y 5/2) iron depletions throughout; slightly acid; gradual wavy boundary.
- Bt4—47 to 58 inches; yellowish brown (10YR 5/4) silty clay loam; weak very coarse prismatic structure; firm; few very fine roots; many very fine continuous vertical tubular pores; few distinct very dark grayish brown (10YR 3/2) organo-clay films on vertical faces of peds and lining channels; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout; common medium distinct light brownish gray (2.5Y 6/2) iron depletions along pores; slightly acid; gradual smooth boundary.
- C1—58 to 70 inches; mottled yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) silt loam; massive; friable; few very fine and fine continuous vertical tubular pores; very dark grayish brown clay lining pores; few iron and manganese accumulations and stains throughout; an increase in the component of coarse silt and very fine sand; neutral; clear smooth boundary.
- 2C2—70 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common very fine and fine continuous vertical tubular pores; dark grayish brown clay lining pores; common medium distinct yellowish brown (10YR 5/6) and few fine

prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; common fine prominent light brownish gray (2.5Y 6/2) iron depletions along pores; few iron and manganese accumulations and stains; an increase in the component of coarse silt and very fine sand; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches

*Depth to the base of the diagnostic horizon:* 45 to 60 inches

*Thickness of the loess:* More than 55 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—3 or 4

Chroma—1 or 2

Texture—silt loam

*Btg or Bt horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam, silty clay, or silt loam

*C or Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

*2Cg or 2C horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam, clay loam, loam, or silty clay loam

## 46A—Herrick silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Summits

### Map Unit Composition

Herrick and similar soils: 92 percent

Dissimilar soils: 8 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thinner dark surface layer

- Soils that have less clay in the subsoil
- Soils that have a darker subsurface layer

*Dissimilar soils:*

- The poorly drained Virden soils in depressions

***Properties and Qualities of the Herrick Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Herrick and Biddle—summits; Piasa—summits and toeslopes

***Map Unit Composition***

Herrick and similar soils: 50 percent

Biddle and similar soils: 30 percent

Piasa and similar soils: 20 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil

***Properties and Qualities of the Herrick Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Apparent seasonal high water table:* At a depth of 1 to 2 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Properties and Qualities of the Biddle Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* Moderate within a depth of 30 inches  
*Available water capacity:* About 11.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At a depth of 1 to 2 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Properties and Qualities of the Piasa Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* High within a depth of 30 inches  
*Available water capacity:* About 7.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Herrick—1; Biddle—2w; Piasa—3w  
*Prime farmland category:* Herrick—prime farmland; Biddle—prime farmland where drained; Piasa—not prime farmland  
*Hydric soil status:* Herrick and Biddle—not hydric; Piasa—hydric

## ***Hickory Series***

*Taxonomic classification:* Fine-loamy, mixed, active, mesic Typic Hapludalfs

### **Typical Pedon**

Hickory silt loam, 35 to 60 percent slopes, at an elevation of 565 feet; Cass County, Illinois; 1,935 feet north and 2,130 feet west of the southeast corner of sec. 27, T. 18 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 47 seconds N. and long. 90 degrees 05 minutes 46 seconds W.; UTM zone 15, 747957E 4429551N, NAD 83:

- A1—0 to 1 inch; very dark grayish brown (10YR 3/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many very fine roots; slightly acid; abrupt smooth boundary.
- A2—1 to 4 inches; 90 percent dark grayish brown (10YR 4/2) and 10 percent brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky and weak fine granular structure; friable; many very fine roots; moderately acid; abrupt smooth boundary.
- E—4 to 8 inches; brown (10YR 5/3) loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common fine distinct very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; abrupt smooth boundary.
- BE—8 to 12 inches; yellowish brown (10YR 5/4) loam, light gray (10YR 7/2) dry; moderate very fine and fine subangular blocky structure; friable; few very fine roots; very few distinct brown (10YR 5/3) and very few distinct dark grayish brown (10YR 4/2) organic coatings in root channels and pores; common fine prominent very pale brown (10YR 8/2) clay depletions between peds; 3 percent gravel; strongly acid; clear smooth boundary.
- Bt1—12 to 22 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films and common distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; very strongly acid; clear smooth boundary.
- Bt2—22 to 29 inches; yellowish brown (10YR 5/4) clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; many distinct dark yellowish brown (10YR 4/4) clay films and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; strongly acid; clear smooth boundary.
- Bt3—29 to 40 inches; yellowish brown (10YR 5/4) clay loam; moderate medium prismatic and moderate medium subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films and very few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.
- Bt4—40 to 53 inches; yellowish brown (10YR 5/6) clay loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; few prominent fine black (10YR 2/1) masses of manganese accumulation throughout; 5 percent gravel; moderately acid; gradual smooth boundary.
- BCt—53 to 58 inches; yellowish brown (10YR 5/6) loam; weak medium prismatic and weak medium and coarse subangular blocky structure; firm; few very fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine prominent black (10YR 2/1) masses of manganese accumulation and common distinct brown (10YR 5/3) iron depletions throughout; 5 percent gravel; neutral; gradual smooth boundary.

C—58 to 63 inches; yellowish brown (10YR 5/6) loam; massive; firm; very few distinct brown (7.5YR 4/4) clay films in root channels and/or pores; few prominent fine black (10YR 2/1) masses of manganese accumulation and many fine prominent light brownish gray (2.5Y 6/2) iron depletions throughout; 3 percent gravel; slightly alkaline.

### Range in Characteristics

*Depth to carbonates (if they occur):* More than 40 inches

*Depth to the base of the diagnostic horizon:* More than 40 inches

*Thickness of the loess:* Less than 20 inches

*Ap or A horizon(s):*

Hue—10YR or 7.5YR

Value—2 to 5

Chroma—2 to 4

Texture—silt loam, loam, clay loam, or silty clay loam

Content of rock fragments—0 to 5 percent

*E horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—silt loam or loam

Content of rock fragments—0 to 5 percent

*Bt horizon(s):*

Hue—10YR, 7.5YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—clay loam, silty clay loam, loam, or gravelly clay loam

Content of rock fragments—0 to 20 percent

*C horizon(s):*

Hue—7.5YR, 10YR, or 2.5Y

Value—5 to 7

Chroma—1 to 8

Texture—loam, clay loam, or sandy loam or the gravelly analogs of these textures

Content of rock fragments—2 to 20 percent

## 8D2—Hickory loam, 10 to 18 percent slopes, eroded

### Setting

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Backslopes

### Map Unit Composition

Hickory and similar soils: 91 percent

Dissimilar soils: 9 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil
- Soils that have more clay in the surface layer

- Soils that have less sand in the surface layer and in the upper part of the subsoil and have more clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Fayette and Rozetta soils on summits
- The moderately well drained Homen and Winfield soils on summits
- The somewhat poorly drained Bunkum soils in the less sloping areas upslope from the Hickory soil

***Properties and Qualities of the Hickory Soil***

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**8D3—Hickory clay loam, 10 to 18 percent slopes, severely eroded**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

***Map Unit Composition***

Hickory and similar soils: 91 percent

Dissimilar soils: 9 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil
- Soils that have less clay in the surface layer
- Soils that have less sand in the surface layer and in the upper part of the subsoil and have more clay in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Bunkum soils in the less sloping areas upslope from the Hickory soil
- The well drained Fayette and Rozetta soils on summits
- The moderately well drained Homen soils on summits

***Properties and Qualities of the Hickory Soil****Parent material:* Till*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 9.9 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 0.2 to 1.0 percent*Shrink-swell potential:* Moderate*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer is mostly subsoil material.*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 4e*Prime farmland category:* Not prime farmland*Hydric soil status:* Not hydric**8F—Hickory silt loam, 18 to 35 percent slopes*****Setting****Landform:* Ground moraines (fig. 5)*Position on the landform:* Backslopes***Map Unit Composition***

Hickory and similar soils: 91 percent

Dissimilar components: 9 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have less sand in the surface layer and in the upper part of the subsoil
- Soils that have less sand in the surface layer and in the upper part of the subsoil and have more clay in the lower part of the subsoil

*Dissimilar components:*

- The well drained Fayette and Rozetta soils on shoulders
- The moderately well drained Homen soils on summits
- Areas of rock outcrop at the base of slopes

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **8F2—Hickory loam, 18 to 35 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hickory and similar soils: 85 percent

Dissimilar components: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have less sand in the surface layer and in the upper part of the subsoil
- Soils that have less sand in the surface layer and in the upper part of the subsoil and have more clay in the lower part of the subsoil

*Dissimilar components:*

- The well drained Fayette and Rozetta soils on shoulders
- The moderately well drained Homen soils on summits
- Areas of rock outcrop at the base of slopes

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **8G—Hickory silt loam, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hickory and similar soils: 91 percent

Dissimilar components: 9 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the subsoil
- Soils that have less sand in the surface layer and in the upper part of the subsoil
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The well drained Fayette and Rozetta soils on shoulders
- The moderately well drained Homen soils on summits
- Areas of rock outcrop at the base of slopes

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **701F—Menfro-Hickory silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Menfro—upper backslopes; Hickory—lower backslopes

### ***Map Unit Composition***

Menfro and similar soils: 50 percent

Hickory and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The moderately well drained Winfield soils on summits

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Menfro—6e; Hickory—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Menfro—not hydric; Hickory—not hydric

## **Homen Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

### **Typical Pedon**

Homen silt loam, 2 to 5 percent slopes, eroded, at an elevation of about 560 feet; Randolph County, Illinois; approximately 714 feet south and 45 feet east of the center of sec. 1, T. 5 S., R. 5 W.; USGS Percy, Illinois, topographic quadrangle; lat. 38 degrees 07 minutes 23 seconds N. and long. 89 degrees 36 minutes 05 seconds W.; UTM zone 16, 271960E 4222671N, NAD 83:

- Ap—0 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; many very fine and fine roots; few fine rounded black (N 2.5/) manganese concretions; slightly acid; abrupt smooth boundary.
- E—9 to 15 inches; yellowish brown (10YR 5/4) silt loam, light yellowish brown (10YR 6/4) dry; weak medium platy structure parting to moderate medium granular; friable; common very fine and fine roots; few fine rounded black (N 2.5/) manganese concretions; very strongly acid; clear smooth boundary.
- Bt—15 to 22 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; common very fine and fine roots; common prominent very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine and medium rounded black (N 2.5/) manganese concretions; very strongly acid; abrupt smooth boundary.
- Bt/E—22 to 28 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine roots along vertical faces of peds; many prominent very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; many distinct yellowish brown (10YR 5/4) clay films on faces of peds; few fine and medium rounded black (N 2.5/) manganese concretions; very strongly acid; abrupt smooth boundary.
- B<sup>t</sup>1—28 to 37 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots throughout; common prominent very pale brown (10YR 7/3) (dry) clay depletions on faces of peds and many prominent dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium irregular dark brown (7.5YR 3/4) masses of iron and manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; very strongly acid; clear smooth boundary.

- B't2—37 to 48 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots throughout; few prominent very pale brown (10YR 7/3) (dry) clay depletions on faces of peds and common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium irregular dark brown (7.5YR 3/4) masses of iron and manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; strongly acid; gradual smooth boundary.
- B't3—48 to 58 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium irregular very dark brown (7.5YR 2.5/2) masses of manganese accumulation with clear strong brown (7.5YR 5/6) boundaries; moderately acid; clear smooth boundary.
- 2BC—58 to 66 inches; brown (7.5YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots throughout; few fine distinct pinkish gray (7.5YR 6/2) iron depletions in the matrix; few medium irregular black (7.5YR 2.5/1) masses of manganese accumulation; moderately acid; gradual smooth boundary.
- 2C—66 to 80 inches; brown (7.5YR 4/4) silt loam; massive with few diagonal cleavage planes; friable; few very fine roots throughout; few prominent black (N 2.5/) manganese coatings lining root channels and pores; few fine distinct pinkish gray (7.5YR 6/2) iron depletions and common fine prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) masses of manganese accumulation; slightly acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 40 to 80 inches

*Thickness of the loess:* 40 to 80 inches

*Other features:* Some pedons have a BC horizon.

*Ap or A horizon(s):*

Hue—10YR

Value—3 to 5 (5 to 7 dry)

Chroma—1 to 3

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—4 or 5 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam

*Bt horizon(s):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam

*Bt/E and B't horizon(s):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6  
 Chroma—2 to 6  
 Texture—silty clay loam or silt loam

*2BC and 2C horizon(s):*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—commonly silt loam; less commonly silty clay loam, clay loam, or loam

## **582B—Homen silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 5)

*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Homen and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 2 feet
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have a darker surface layer
- Soils that have a darker surface soil

*Dissimilar soils:*

- The well drained Hickory soils on backslopes

### ***Properties and Qualities of the Homen Soil***

*Parent material:* Loess over silty pedisediment

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Perched seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## Huntsville Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

### Typical Pedon

Huntsville silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of 667 feet; Knox County, Illinois; 2,475 feet east and 495 feet south of the northwest corner of sec. 1, T. 12 N., R. 4 E.; USGS Lafayette, Illinois, topographic quadrangle; lat. 41 degrees 03 minutes 37 seconds N. and long. 89 degrees 59 minutes 42 seconds W.; UTM zone 16, 248320E 4549776N, NAD 83:

- Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; slightly acid; clear smooth boundary.
- A1—10 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- A2—16 to 27 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; friable; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- AC—27 to 52 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; friable; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
- C—52 to 65 inches; dark brown (10YR 3/3) silt loam; massive; friable; slightly acid; clear smooth boundary.
- Cg—65 to 80 inches; grayish brown (10YR 5/2) silt loam; massive; friable; few fine prominent black (N 2/) manganese accumulations; few fine distinct yellowish brown (10YR 5/4 and 5/6) and few coarse prominent yellowish red (5YR 5/6) redoximorphic concentrations; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 57 inches

*Ap or A horizon(s):*

- Hue—10YR
- Value—2 or 3
- Chroma—1 to 3
- Texture—silt loam

*AC horizon(s):*

- Hue—10YR
- Value—4 or 5
- Chroma—3 or 4
- Texture—silt loam or loam below a depth of 40 inches

*C or Cg horizon(s):*

- Hue—10YR
- Value—3 to 5
- Chroma—2 or 4
- Texture—silt loam; loam or strata of very fine sandy loam to fine sand below a depth of 40 inches in some pedons

## **3077A—Huntsville silt loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Huntsville and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a thinner dark surface soil
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a lighter colored surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Lawson soils in the slightly lower positions
- The poorly drained Beaucoup soils in depressions

### ***Properties and Qualities of the Huntsville Soil***

*Parent material:* Alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## ***Hurst Series***

*Taxonomic classification:* Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs

*Taxadjunct features:* The Hurst soils in this survey area have more clay in the particle-size control section than is defined as the range for the series. Also, they are less acid throughout and have carbonates higher in the profile. These differences, however, do not significantly affect the use and management of the soils. These soils are classified as very fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs.

### Typical Pedon

Hurst silty clay loam, 2 to 5 percent slopes, eroded, rarely flooded, at an elevation of about 430 feet; Jersey County, Illinois; about 2,543 feet north and 2,524 feet west of the southeast corner of sec. 4, T. 7 N., R. 13 W.; USGS Nutwood, Illinois, topographic quadrangle; lat. 39 degrees 04 minutes 44 seconds N. and long. 90 degrees 32 minutes 50 seconds W.; UTM zone 15, 712166E 4328383N, NAD 83:

- Ap1—0 to 3 inches; very dark grayish brown (10YR 3/2) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium granular structure; friable; neutral; abrupt smooth boundary.
- Ap2—3 to 5 inches; very dark grayish brown (10YR 3/2) silty clay, light brownish gray (10YR 6/2) dry; weak medium granular structure; very firm; slightly alkaline; abrupt smooth boundary.
- Btg1—5 to 13 inches; dark grayish brown (2.5Y 4/2) clay; weak medium subangular blocky structure; very firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many distinct gray (2.5Y 5/1) pressure faces; slightly alkaline; clear smooth boundary.
- Btg2—13 to 22 inches; grayish brown (2.5Y 5/2) clay; weak medium subangular blocky structure; very firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds and many distinct gray (2.5Y 5/1) pressure faces; few medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; few fine prominent white (10YR 8/1) carbonate masses throughout; strongly effervescent; slightly alkaline; clear smooth boundary.
- Btkg1—22 to 41 inches; variegated 69 percent grayish brown (2.5Y 5/2) and 30 percent reddish brown (2.5YR 4/4) clay; moderate medium angular blocky structure; very firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds and many distinct gray (2.5Y 5/1) pressure faces; few medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; few fine prominent white (10YR 8/1) carbonate masses throughout; strongly effervescent; slightly alkaline; abrupt smooth boundary.
- Btkg2—41 to 51 inches; grayish brown (2.5Y 5/2) clay; moderate medium prismatic structure; very firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds and many distinct gray (2.5Y 5/1) pressure faces; common fine faint brown (10YR 5/3) masses of iron and manganese accumulation throughout; common medium prominent reddish brown (5YR 4/3) masses of iron and manganese accumulation along root channels; common medium prominent white (10YR 8/1) carbonate masses throughout; strongly effervescent; moderately alkaline; clear smooth boundary.
- Btkg3—51 to 69 inches; grayish brown (2.5Y 5/2) clay; weak coarse prismatic structure; very firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds and many distinct gray (2.5Y 5/1) pressure faces; few fine prominent black (7.5YR 2.5/1) masses of manganese accumulation throughout; common fine faint brown (10YR 5/3) masses of iron and manganese accumulation throughout; common fine prominent reddish brown (5YR 4/3) masses of iron and manganese accumulation along root channels; few fine prominent white (10YR 8/1) carbonate masses throughout; strongly effervescent; moderately alkaline; clear smooth boundary.
- Btkg4—69 to 80 inches; brown (10YR 5/3) clay; moderate medium prismatic structure; very firm; few distinct gray (10YR 5/1) clay films on faces of peds; common distinct brown (7.5YR 4/2) pressure faces and slickensides; few fine prominent black (7.5YR 2.5/1) masses of manganese accumulation throughout; few medium distinct reddish brown (5YR 4/3) masses of iron and manganese accumulation along root channels; common fine faint brown (7.5YR 5/4) masses of iron and

manganese accumulation throughout; many medium prominent white (10YR 8/1) carbonate masses throughout; strata of light brownish gray (10YR 6/2) silt loam at a depth of 77 inches; very strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* More than 44 inches

*Depth to clayey lacustrine sediments:* Less than 24 inches

*Ap or A horizon(s):*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

Texture—silty clay loam

*Btg or Btkg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay or clay

*C or Cg horizon(s) (where present):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silty clay

## **7338B2—Hurst silty clay loam, 2 to 5 percent slopes, eroded, rarely flooded**

### ***Setting***

*Landform:* Flood-plain steps

### ***Map Unit Composition***

Hurst and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the surface layer
- Soils that have slopes of less than 2 percent
- Soils that have slopes of more than 5 percent

*Dissimilar soils:*

- The somewhat poorly drained Kendall soils in positions similar to those of the Hurst soil
- The somewhat poorly drained, frequently flooded Wakeland soils on flood plains
- The well drained Drury soils in the higher positions

### ***Properties and Qualities of the Hurst Soil***

*Parent material:* Clayey lacustrine deposits

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Perched seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Jules Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, calcareous, mesic Typic Udifluvents

### **Typical Pedon**

Jules silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 540 feet; Peoria County, Illinois; 2,200 feet east and 75 feet south of the northwest corner of sec. 36, T. 10 N., R. 6 E.; USGS Oak Hill, Illinois, topographic quadrangle; lat. 40 degrees 48 minutes 47 seconds N. and long. 89 degrees 46 minutes 03 seconds W.; UTM zone 16, 266571E 4521695N, NAD 83:

- Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam with some yellowish brown (10YR 5/4) peds, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.
- C1—8 to 18 inches; stratified dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2), and yellowish brown (10YR 5/4) silt loam with very thin strata of loam; thin bedding planes along strata; massive; friable; few very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
- C2—18 to 32 inches; stratified dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2), and yellowish brown (10YR 5/4) silt loam with thin strata of very fine sandy loam and loam; thin bedding planes along strata; massive; friable; few very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
- C3—32 to 46 inches; stratified dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2), and yellowish brown (10YR 5/4) silt loam with thin strata of loamy sand and loam; thin bedding planes along strata; massive; friable; slightly effervescent; slightly alkaline; clear smooth boundary.
- C4—46 to 60 inches; stratified brown (10YR 4/3), dark grayish brown (10YR 4/2), very dark grayish brown (10YR 3/2), and yellowish brown (10YR 5/4) silt loam with thin strata of loamy sand and loam; thin bedding planes along strata; massive; friable; common fine accumulations of iron and manganese accumulations; slightly effervescent; slightly alkaline.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* Less than 10 inches

*Depth to carbonates:* Less than 10 inches

*Ap or A horizon(s):*

Hue—10YR  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silt loam

*C horizon(s):*

Hue—10YR  
 Value—3 to 5  
 Chroma—2 to 4  
 Texture—silt loam or silt with thin strata of loam, very fine sandy loam, fine sandy loam, loamy sand, or sand

## **8028A—Jules silt loam, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Jules and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a buried soil at a depth of less than 40 inches
- Soils that have carbonates at a depth of more than 10 inches
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Dupo soils in the slightly lower positions
- The somewhat poorly drained Littleton soils in the slightly higher positions
- The well drained Worthen soils in the higher positions
- The poorly drained Beaucoup soils in depressions

### ***Properties and Qualities of the Jules Soil***

*Parent material:* Calcareous silty alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Frequency and most likely period of flooding:* Occasional, for brief periods, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Kendall Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

#### **Typical Pedon**

Kendall silt loam, 0 to 2 percent slopes, at an elevation of about 650 feet; Douglas County, Illinois; about 1,160 feet north and 400 feet west of the center of sec. 36, T. 15 N., R. 10 E.; USGS Oakland, Illinois, topographic quadrangle; lat. 39 degrees 42 minutes 24 seconds N. and long. 88 degrees 02 minutes 17 seconds W.; UTM zone 16, 411010E 4395720N, NAD 83:

- Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light grayish brown (10YR 6/2) dry; weak medium granular structure; friable; many very fine and fine roots; few fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; neutral; abrupt smooth boundary.
- E—7 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.
- BE—11 to 14 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and fine roots; common fine and medium distinct black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.
- Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few medium distinct black (7.5YR 2.5/1) manganese nodules throughout; common fine faint brown (10YR 5/3) masses of iron and manganese accumulation in the matrix; strongly acid; clear smooth boundary.
- Btg2—25 to 41 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium distinct black (7.5YR 2.5/1) manganese nodules throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg3—41 to 51 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few very fine and fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; few medium prominent black (7.5YR 2.5/1) manganese nodules throughout; slightly acid; clear smooth boundary.
- 2Btg4—51 to 58 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent gray (5Y 5/1) loam; weak coarse subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium prominent black (7.5YR 2.5/1) manganese nodules throughout; about 5 percent fine gravel; neutral; clear smooth boundary.
- 2Cg1—58 to 74 inches; 45 percent yellowish brown (10YR 5/6), 45 percent gray (5Y 5/1), and 10 percent strong brown (7.5YR 5/6), stratified loam, sandy loam, and silt loam; massive; friable; about 5 percent fine gravel; slightly alkaline; abrupt smooth boundary.

2Cg2—74 to 80 inches; 60 percent grayish brown (10YR 5/2), 30 percent gray (10YR 5/1), and 10 percent yellowish brown (10YR 5/6), stratified gravelly loam, gravelly sandy loam, and silt loam; massive; friable; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Depth to carbonates:* 40 inches or more

*Depth to the base of the diagnostic horizon:* 40 to more than 60 inches

*Thickness of the loess:* 40 to 60 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 to 5; 2 or 3 where the A horizon is less than 7 inches thick

Chroma—1 to 3

Texture—silt loam

*E or Eg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 7

Chroma—2 or 3

Texture—silt loam

*BE horizon(s) (where present):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

*Btg or Bt horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay loam

*2Btg, 2Bt, 2BCg, or 2BC horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—loam, clay loam, silt loam, or sandy loam

*2Cg or 2C horizon(s):*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—stratified silt loam, loam, sandy loam, clay loam, silty clay loam, or sandy clay loam or the gravelly analogs of these textures

## 7242A—Kendall silt loam, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Flood-plain steps

### Map Unit Composition

Kendall and similar soils: 88 percent

Dissimilar soils: 12 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have more clay in the subsoil
- Soils that have less sand in the lower part of the subsoil and in the underlying material

#### *Dissimilar soils:*

- The well drained Drury and Ridgway soils in the more sloping areas
- The somewhat poorly drained Wakeland soils in the lower positions
- The moderately well drained Blyton soils in the lower positions
- The poorly drained Vesser soils in swales

### ***Properties and Qualities of the Kendall Soil***

*Parent material:* Loess or other silty material over outwash

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## ***Keomah Series***

*Taxonomic classification:* Fine, smectitic, mesic Aeric Endoaqualfs

### ***Typical Pedon***

Keomah silt loam, 0 to 2 percent slopes, at an elevation of 655 feet; Adams County, Illinois; 2,495 feet south and 300 feet west of the northeast corner of sec. 4, T. 2 N., R. 7 W.; USGS Loraine, Illinois, topographic quadrangle; lat. 40 degrees 11 minutes 24 seconds N. and long. 91 degrees 12 minutes 14 seconds W.; UTM zone 15, 652882E 4450397N, NAD 83:

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Ap2—6 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots; few fine distinct brown (7.5YR 4/4)

- masses of iron and manganese accumulation throughout; moderately acid; abrupt smooth boundary.
- E—11 to 18 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common fine roots; few distinct dark grayish brown (10YR 4/2) coatings on faces of peds and in pores; few distinct light gray (10YR 7/2) clay depletions throughout; few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.
- Bt1—18 to 25 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine faint grayish brown (10YR 5/2) iron depletions throughout; strongly acid; clear smooth boundary.
- Bt2—25 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent black (2.5Y 2/1) masses of manganese accumulation and many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; strongly acid; clear smooth boundary.
- Bt3—33 to 44 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout, common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; clear smooth boundary.
- Btg—44 to 51 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; moderately acid; clear smooth boundary.
- BCg1—51 to 63 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.
- BCg2—63 to 76 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and many fine prominent strong brown (7.5YR 5/6) masses of iron accumulation throughout; slightly acid; clear smooth boundary.
- C—76 to 89 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation throughout, few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and common medium distinct light brownish gray (10YR 6/2) iron depletions throughout; slightly acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 40 to 76 inches

*Ap or A horizon(s):*

Hue—10YR

Value—3 or 4 (3 in horizons less than 3 inches thick)

Chroma—1 or 2

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*Bt horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silty clay

*C horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silt loam

## 17A—Keomah silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Keomah and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have less clay in the subsoil
- Soils that have more sand in the lower part of the subsoil
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

*Dissimilar soils:*

- The poorly drained Rushville soils in depressions

### Properties and Qualities of the Keomah Soil

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* High  
*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w  
*Prime farmland category:* Prime farmland where drained  
*Hydric soil status:* Not hydric

## **Lacrescent Series**

*Taxonomic classification:* Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls

### **Typical Pedon**

Lacrescent channery silt loam, 35 to 60 percent slopes, at an elevation of 580 feet; Pike County, Illinois; 2,600 feet east and 1,550 feet south of the northwest corner of sec. 31, T. 4 S., R. 6 W.; USGS Hull, Illinois, topographic quadrangle; lat. 39 degrees 40 minutes 49 seconds N. and long. 91 degrees 08 minutes 21 seconds W.; UTM zone 15, 659572E 4393932N, NAD 83:

- A1—0 to 7 inches; very dark gray (10YR 3/1) channery silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; many fine and few coarse roots throughout; strongly effervescent; 30 percent channers and 5 percent flagstones; slightly alkaline; clear wavy boundary.
- A2—7 to 21 inches; very dark gray (10YR 3/1) gravelly silt loam, gray (10YR 5/1) dry; moderate medium subangular blocky structure parting to moderate medium granular; friable; common medium and few coarse roots throughout; strongly effervescent; 30 percent gravel; slightly alkaline; gradual wavy boundary.
- Bw—21 to 38 inches; dark brown (10YR 3/3) very gravelly silt loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; friable; common medium and few coarse roots throughout; many faint dark gray (10YR 3/2) organic coatings on faces of peds; violently effervescent; 40 percent gravel; moderately alkaline; gradual wavy boundary.
- C—38 to 60 inches; dark yellowish brown (10YR 4/4) very flaggy silt loam; massive; friable; common medium roots throughout; common distinct dark brown (10YR 3/3) organic coatings in root channels and pores; violently effervescent; 30 percent flagstones and 25 percent channers; moderately alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 21 inches  
*Depth to lithic contact:* More than 60 inches  
*Depth to carbonates:* 0 to 36 inches  
*Depth to the base of the diagnostic horizon:* 20 to 38 inches

*A horizon(s):*

Hue—10YR  
 Value—2 or 3  
 Chroma—1 to 3

Texture—silt loam, loam, or silty clay loam  
 Content of rock fragments—0 to 70 percent

*Bw horizon(s):*

Hue—10YR  
 Value—4  
 Chroma—3 or 4  
 Texture—loam, fine sandy loam, sandy loam, or silt loam  
 Content of rock fragments—35 to 70 percent

*C horizon(s):*

Hue—10YR or 2.5Y  
 Value—4 or 5  
 Chroma—3 or 4  
 Texture—loam, fine sandy loam, or silt loam  
 Content of rock fragments—35 to 70 percent

## **836G—Hamburg-Lacrescent complex, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Bluffs (fig. 7)

*Position on the landform:* Hamburg—backslopes; Lacrescent—backslopes and footslopes

### ***Map Unit Composition***

Hamburg and similar soils: 55 percent  
 Lacrescent and similar soils: 35 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates below a depth of 20 inches
- Soils that have slopes of less than 35 percent

*Dissimilar components:*

- Areas of limestone bedrock outcrop; upslope from the Lacrescent soil and downslope from the Hamburg soil
- Areas of shale outcrop at the base of slopes

### ***Properties and Qualities of the Hamburg Soil***

*Parent material:* Calcareous loess

*Drainage class:* Somewhat excessively drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Lacrescent Soil***

*Parent material:* Colluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* Hamburg—7e; Lacrescent—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hamburg—not hydric; Lacrescent—not hydric

## **837G—Rock outcrop, limestone-Lacrescent complex, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Bluffs (fig. 8)

*Position on the landform:* Rock outcrop—shoulders and backslopes; Lacrescent—backslopes and footslopes

### ***Map Unit Composition***

Rock outcrop, limestone: 65 percent

Lacrescent: 25 percent

Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Soils that are similar to the Lacrescent soil:*

- Soils that have carbonates below a depth of 20 inches
- Soils that have slopes of less than 35 percent

*Dissimilar components:*

- The well drained Fayette and Menfro soils on summits

### ***Properties and Qualities of the Rock Outcrop***

*Kind of rock:* Limestone bedrock

*Flooding:* None

*Susceptibility to water erosion:* Low

### ***Properties and Qualities of the Lacrescent Soil***

*Parent material:* Colluvium

*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 6.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.0 to 5.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* Rock outcrop, limestone—7s; Lacrescent—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Lacrescent—not hydric

## **Lawson Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

### **Typical Pedon**

Lawson silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 685 feet; Adams County, Illinois; 1,900 feet east and 265 feet south of the northwest corner of sec. 3, T. 1 S., R. 5 W.; USGS Clayton, Illinois, topographic quadrangle; lat. 40 degrees 01 minute 04 seconds N. and long. 90 degrees 57 minutes 54 seconds W.; UTM zone 15, 673680E 4431720N, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

A1—6 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

A2—14 to 22 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

A3—22 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common fine roots; common fine faint brown (10YR 4/3) masses of iron and manganese accumulation throughout; neutral; clear smooth boundary.

C1—33 to 40 inches; stratified, 70 percent very dark grayish brown (10YR 3/2) and 20 percent dark brown (10YR 3/3) silt loam; massive; friable; common fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine and medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C2—40 to 56 inches; stratified, 60 percent very dark grayish brown (10YR 3/2) and 30 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron

accumulation and common medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C3—56 to 75 inches; stratified, 80 percent very dark grayish brown (10YR 3/2) and 10 percent dark brown (10YR 3/3) silt loam; massive; friable; few fine roots; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation between peds, common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation between peds, and many medium faint dark grayish brown (10YR 4/2) iron depletions throughout; slightly acid; clear smooth boundary.

C4—75 to 80 inches; stratified, 80 percent dark grayish brown (10YR 4/2) and 10 percent very dark grayish brown (10YR 3/2) silt loam; massive; friable; common medium and coarse prominent yellowish brown (10YR 5/6) and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout and common fine faint dark gray (10YR 4/1) iron depletions throughout; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*C horizon(s):*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 3

Texture—stratified silt loam or silty clay loam; strata containing more sand occur below a depth of 40 inches in some pedons

## 3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains (fig. 6)

### Map Unit Composition

Lawson and similar soils: 92 percent

Dissimilar soils: 8 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a thinner dark surface soil
- Soils that have a lighter colored surface soil
- Soils that contain more sand throughout
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Huntsville soils in the slightly higher positions
- The poorly drained Sawmill soils in swales

### Properties and Qualities of the Lawson Soil

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 1 to 2 feet  
*Frequency and most likely period of flooding:* Frequent, November to June  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w  
*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season  
*Hydric soil status:* Not hydric

## **Littleton Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls  
*Taxadjunct features:* The Littleton soils in this survey area have a thinner mollic epipedon than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Aquic Hapludolls.

### **Typical Pedon**

Littleton silt loam, 0 to 2 percent slopes, rarely flooded, at an elevation of 470 feet; Adams County, Illinois; 1,000 feet east and 1,200 feet north of the southwest corner of sec. 26, T. 3 S., R. 8 W.; USGS Marblehead, Illinois, topographic quadrangle; lat. 39 degrees 46 minutes 32 seconds N. and long. 91 degrees 17 minutes 04 seconds W.; UTM zone 15, 645614E 4404231N, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots throughout; neutral; abrupt smooth boundary.
- A—9 to 19 inches; very dark grayish brown (10YR 3/2) silt loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular blocky structure; friable; few very fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation between peds; slightly acid; clear smooth boundary.
- AB—19 to 32 inches; very dark grayish brown (10YR 3/2) silt loam, gray (10YR 5/1) dry; weak medium subangular blocky structure; friable; few very fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation between peds; slightly acid; clear smooth boundary.
- Bw1—32 to 45 inches; dark grayish brown (10YR 4/2) silt loam; weak coarse subangular blocky structure; friable; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine distinct brown (7.5YR 4/4) masses of iron and manganese accumulation and common fine faint grayish

brown (10YR 5/2) iron depletions throughout; slightly acid; gradual smooth boundary.

Bw2—45 to 53 inches; dark grayish brown (10YR 4/2) silt loam; weak coarse subangular blocky structure; friable; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and very few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; few fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation throughout and few fine faint gray (10YR 5/1) iron depletions between peds; slightly acid; gradual smooth boundary.

C—53 to 65 inches; grayish brown (10YR 5/2) silt loam; massive; friable; very few distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; many medium distinct brown (7.5YR 4/4) masses of iron and manganese accumulation throughout; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Depth to the base of the diagnostic horizon:* 30 to 62 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bw horizon(s):*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 or 3

Texture—silt loam

*C horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silt loam

## 7081A—Littleton silt loam, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Alluvial fans (fig. 7)

### Map Unit Composition

Littleton and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have less clay in the surface layer and in the subsoil
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thicker dark surface soil

*Dissimilar soils:*

- The moderately well drained Blyton soils in the lower positions
- The well drained Worthen soils in the higher positions

- The well drained Jules soils in the lower positions
- The poorly drained Beaucoup soils in depressions

### ***Properties and Qualities of the Littleton Soil***

*Parent material:* Local silty alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Low

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***McFain Series***

*Taxonomic classification:* Clayey over loamy, smectitic over mixed, superactive, mesic  
Fluvaquentic Endoaquolls

### ***Typical Pedon***

McFain silty clay, 0 to 2 percent slopes, occasionally flooded, at an elevation of 418 feet; Jersey County, Illinois; 215 feet north and 618 feet west of the southeast corner of sec. 30, T. 8 N., R. 13 W.; USGS Nutwood, Illinois, topographic quadrangle; lat. 39 degrees 06 minutes 06 seconds N. and long. 90 degrees 34 minutes 45 seconds W.; UTM zone 15, 709321E 4330884N, NAD 83:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; few thin sand lenses and few silt depletions on faces of peds; few large clam-shell fragments on the soil surface; neutral; clear smooth boundary.

A—6 to 15 inches; very dark gray (2.5Y 3/1) silty clay, dark gray (2.5Y 4/1) dry; strong fine and medium angular blocky structure; firm; common very fine roots; many faint very dark gray (2.5Y 3/1) pressure faces on faces of peds; very few silt depletions on faces of peds; neutral; abrupt smooth boundary.

2Btg—15 to 30 inches; dark gray (2.5Y 4/1) silt loam that has a low content of sand; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine prominent irregular strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

- 2Btkg1—30 to 42 inches; gray (2.5Y 6/1), stratified silt loam and very fine sandy loam; weak fine subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films lining root channels; common fine distinct light olive brown (2.5Y 5/4) masses of iron and manganese accumulation in the matrix; common fine and medium white (10YR 8/1) fragments of mollusk shells; strongly effervescent; slightly alkaline; clear smooth boundary.
- 2Btkg2—42 to 56 inches; gray (2.5Y 5/1), stratified silt loam and very fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films lining root channels; few faint dark gray (2.5Y 4/1) clay films on vertical faces of pedes; common fine distinct light olive brown (2.5Y 5/4) masses of iron and manganese accumulation in the matrix; few fine white (10YR 8/1) fragments of mollusk shells; strongly effervescent; slightly alkaline; gradual smooth boundary.
- 2BCtg—56 to 66 inches; gray (2.5Y 5/1) silt loam that has a high content of very fine sand; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films lining root channels; many medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation with diffuse strong brown (7.5YR 5/6) boundaries; slightly effervescent; slightly alkaline; gradual smooth boundary.
- 2Cg—66 to 80 inches; gray (2.5Y 5/1) silty clay loam that has a high content of very fine sand; massive; firm; common medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches

*Depth to loamy material:* 15 to 30 inches

*Depth to carbonates:* 15 to 30 inches

*Depth to the base of the diagnostic horizon:* 40 to more than 80 inches

*Other features:* Some pedons have an AB or BA horizon.

*Ap or A horizon(s):*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay

*2Btg or 2Btkg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—typically stratified silt loam, loam, sandy loam, fine sandy loam, or very fine sandy loam

*2C or 2Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 3

Texture—typically stratified silty clay loam to very fine sand

## **8248A—McFain silty clay, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

McFain and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a lighter colored surface soil that contains less clay
- Soils that have less clay and more sand in the lower part of the surface soil
- Soils that do not have a seasonal high water table within a depth of 1 foot

#### *Dissimilar soils:*

- The well drained Jules soils in the higher positions

### ***Properties and Qualities of the McFain Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Occasional, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Menfro Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### ***Typical Pedon***

Menfro silt loam, 2 to 5 percent slopes, at an elevation of 675 feet; Adams County, Illinois; 310 feet west and 240 feet south of the northeast corner of sec. 5, T. 1 N., R. 8 W.; USGS Mendon, Illinois, topographic quadrangle; lat. 40 degrees 06 minutes 35 seconds N. and long. 91 degrees 20 minutes 18 seconds W.; UTM zone 15, 641611E 4441252N, NAD 83:

- Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common fine and medium roots throughout; few very fine pores; moderately acid; abrupt smooth boundary.
- BE—8 to 14 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; few fine and medium roots throughout; common fine pores; few distinct brown (10YR 4/3) clay films in root channels and pores; few distinct light gray (10YR 7/2) clay depletions between peds; moderately acid; clear smooth boundary.
- Bt1—14 to 25 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots throughout; common fine pores; common distinct brown (10YR 4/3) clay films and few distinct light brownish gray (10YR 6/2) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt2—25 to 33 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; many very fine and fine pores; few distinct dark yellowish brown (10YR 4/4) clay films and few distinct light brownish gray (10YR 6/2) silt coatings on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; strongly acid; clear smooth boundary.
- Bt3—33 to 40 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to weak medium subangular blocky; firm; few fine roots throughout; many very fine and fine pores; common distinct very pale brown (10YR 7/3) silt coatings and common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; moderately acid; clear smooth boundary.
- BC—40 to 58 inches; yellowish brown (10YR 5/4) silt loam; weak coarse prismatic structure; firm; few very fine roots throughout; common very fine and fine pores; few distinct very pale brown (10YR 7/3) silt coatings on faces of peds and few distinct dark yellowish brown (10YR 4/4) clay films in root channels and pores; common fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; moderately acid; gradual wavy boundary.
- C1—58 to 74 inches; yellowish brown (10YR 5/4) silt loam; massive; firm; common very fine and fine pores; few distinct brown (10YR 4/3) clay films in root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; moderately acid; gradual wavy boundary.
- C2—74 to 92 inches; light yellowish brown (10YR 6/4) silt loam; massive; firm; few very fine pores; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation throughout; moderately acid; gradual wavy boundary.
- C3—92 to 95 inches; 75 percent pale brown (10YR 6/3) and 15 percent brown (10YR 5/3) silt loam; massive; firm; few very fine pores; common medium and coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout, common medium prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and common medium and coarse faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 30 to 100 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 to 5

Chroma—2 to 4

Texture—silt loam or silty clay loam

*E horizon(s) (where present):*

Hue—10YR  
 Value—4 or 5  
 Chroma—3 or 4  
 Texture—silt loam

*Bt horizon(s):*

Hue—10YR or 7.5YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—silty clay loam

*C horizon(s):*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 or 4  
 Texture—silt loam

**79B—Menfro silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Loess hills

*Position on the landform:* Summits and shoulders

***Map Unit Composition***

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thinner surface soil
- Soils that have a darker and thicker surface layer
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Caseyville soils in the less sloping positions

***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **79C2—Menfro silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Menfro and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have more rock fragments and clay in the lower part of the subsoil
- Soils that have more sand in the subsoil and in the underlying material

*Dissimilar soils:*

- The somewhat poorly drained Caseyville soils in the less sloping positions

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 79D2—Menfro silt loam, 10 to 18 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines; loess hills

*Position on the landform:* Backslopes

### *Map Unit Composition*

Menfro and similar soils: 100 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have more rock fragments and clay in the lower part of the subsoil
- Soils that have more sand in the subsoil and in the underlying material

### *Properties and Qualities of the Menfro Soil*

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 79D3—Menfro silty clay loam, 10 to 18 percent slopes, severely eroded

### *Setting*

*Landform:* Ground moraines; loess hills

*Position on the landform:* Backslopes

### *Map Unit Composition*

Menfro and similar soils: 100 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have less clay in the subsoil
- Soils that have less clay in the surface layer
- Soils that have more rock fragments and clay in the lower part of the subsoil
- Soils that have more sand in the subsoil and in the underlying material

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **79E2—Menfro silt loam, 18 to 25 percent slopes, eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Menfro and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates within a depth of 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have slopes of more than 25 percent
- Soils that have more sand in the subsoil and in the underlying material
- Soils that have more rock fragments and clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Goss soils in positions downslope from those of the Menfro soil

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **79F—Menfro silt loam, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Menfro and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates within a depth of 40 inches
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have slopes of more than 35 percent
- Soils that have more sand in the subsoil and in the underlying material
- Soils that have more rock fragments and clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Goss soils in positions similar to those of the Menfro soil

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **701F—Menfro-Hickory silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Menfro—upper backslopes; Hickory—lower backslopes

### ***Map Unit Composition***

Menfro and similar soils: 50 percent  
 Hickory and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have less clay in the subsoil

#### *Dissimilar soils:*

- The moderately well drained Winfield soils on summits

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Hickory Soil***

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* Menfro—6e; Hickory—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Menfro—not hydric; Hickory—not hydric

### **833F—Menfro-Goss complex, 18 to 35 percent slopes**

#### ***Setting***

*Landform:* Hillslopes  
*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Menfro and similar soils: 60 percent  
 Goss and similar soils: 30 percent  
 Dissimilar components: 10 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

##### *Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

#### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Menfro—6e; Goss—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Menfro—not hydric; Goss—not hydric

## **833F2—Menfro-Goss complex, 18 to 35 percent slopes, eroded**

### ***Setting***

*Landform:* Hillslopes

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Menfro and similar soils: 60 percent

Goss and similar soils: 30 percent

Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of more than 35 percent
- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

### ***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Menfro—6e; Goss—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Menfro—not hydric; Goss—not hydric

## **833G—Goss-Menfro complex, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Hillslopes  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Goss and similar soils: 60 percent  
 Menfro and similar soils: 30 percent  
 Dissimilar components: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of less than 35 percent

- Soils that have less clay in the subsoil
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar components:*

- Areas of limestone bedrock outcrop
- Menfro soils in the less sloping positions on summits and shoulders

***Properties and Qualities of the Goss Soil***

*Parent material:* Clayey material weathered from cherty limestone

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Properties and Qualities of the Menfro Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* Goss—7e; Menfro—7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Goss—not hydric; Menfro—not hydric

**M-W—Miscellaneous water**

- This map unit consists of manmade areas that are used for industrial, sanitary, or mining applications and that contain water most of the year.

## ***Muscature Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Argiudolls

### **Typical Pedon**

Muscature silt loam, 0 to 2 percent slopes, at an elevation of 700 feet; Warren County, Illinois; 2,500 feet west and 2,240 feet north of the southeast corner of sec. 29, T. 9 N., R. 1 W.; USGS Greenbush, Illinois, topographic quadrangle; lat. 40 degrees 44 minutes 11 seconds N. and long. 90 degrees 31 minutes 46 seconds W.; UTM zone 15, 708602E 4512435N, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; abrupt smooth boundary.
- A—7 to 13 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; clear smooth boundary.
- AB—13 to 20 inches; mixed very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots throughout; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.
- Bt1—20 to 28 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common dark manganese stains; neutral; clear smooth boundary.
- Bt2—28 to 38 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron and faint pale brown (10YR 6/3) masses of iron and manganese in the matrix; common dark manganese stains; neutral; clear smooth boundary.
- Btg—38 to 50 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; common prominent grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron and dark yellowish brown (10YR 4/6) masses of iron and manganese in the matrix; common dark manganese stains; slightly acid; clear smooth boundary.
- BCg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; common medium prominent yellowish brown (10YR 5/6) masses of iron and dark yellowish brown (10YR 4/6) masses of iron and manganese in the matrix; common dark manganese stains; slightly acid; clear smooth boundary.
- Cg—60 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron and dark yellowish brown (10YR 4/6) masses of iron and manganese in the matrix; few fine round very dark brown (10YR 2/2) soft masses of manganese; neutral.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 20 inches

*Thickness of the loess:* More than 80 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of the diagnostic horizon:* 40 to 64 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Bt or Btg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam

*C or Cg horizon(s):*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam or silty clay loam

## **51A—Muscatune silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Summits

### ***Map Unit Composition***

Muscatune and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a light-colored subsurface layer
- Soils that have a thinner dark surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The poorly drained Denny and Sable soils in depressions
- The well drained Osco soils on shoulders

### ***Properties and Qualities of the Muscatune Soil***

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Oconee Series**

*Taxonomic classification:* Fine, smectitic, mesic Udollic Endoaqualfs

### **Typical Pedon**

Oconee silt loam, 2 to 5 percent slopes, at an elevation of about 560 feet; Madison County, Illinois; approximately 1,315 feet east and 2,245 feet north of the southwest corner of sec. 29, T. 5 N., R. 5 W.; USGS Grantfork, Illinois, topographic quadrangle; lat. 38 degrees 50 minutes 58 seconds N. and long. 89 degrees 41 minutes 17 seconds W.; UTM zone 16, 266718E 4303509N, NAD 83:

- Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure grading to weak thin platy in the lower part; very friable; common very fine roots; common very fine tubular pores within peds; few fine rounded black (10YR 2/1) manganese nodules with sharp boundaries; slightly acid; abrupt smooth boundary.
- E1—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate thick platy structure; very friable; few very fine roots; few very fine tubular pores within peds; many distinct brown (10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine distinct dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation in the matrix; few fine and medium irregular very dark gray (5YR 3/1) iron and manganese nodules with sharp boundaries; moderately acid; clear smooth boundary.
- E2—12 to 16 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate fine and medium subangular blocky structure; friable; few very fine roots; common very fine pores within and between peds; many distinct brown (10YR 5/3) clay depletions in pores; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium rounded dark brown (7.5YR 3/2) iron and manganese nodules with clear boundaries; moderately acid; clear smooth boundary.
- Bt/E—16 to 21 inches; brown (10YR 5/3) silty clay loam (Bt); strong very fine subangular blocky structure; firm; few very fine roots; common fine pores in the silty material between peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds and many prominent light brownish gray (10YR 6/2) clay depletions on faces of peds and in pores (E); many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine faint dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation in the matrix; few fine and medium rounded dark brown (7.5YR 3/2) iron and manganese nodules with clear boundaries; strongly acid; clear irregular boundary.
- Bt—21 to 29 inches; brown (10YR 5/3) silty clay; moderate medium prismatic structure parting to strong fine and medium angular blocky; very firm; few very fine roots between peds; few fine pores between peds; many prominent dark grayish brown

(10YR 4/2) clay films on faces of peds; common medium faint grayish brown (10YR 5/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium rounded black (5YR 2.5/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots between peds; few fine pores between peds; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and common coarse prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; common fine and medium rounded black (5YR 2.5/1) manganese nodules with sharp boundaries; strongly acid; clear smooth boundary.

Btg2—38 to 47 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few fine pores between peds; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6), common medium prominent yellowish brown (10YR 5/8), and few medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine and medium irregular black (5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; moderately acid; clear smooth boundary.

Btg3—47 to 58 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine pores between peds; many prominent very dark grayish brown (10YR 3/2) organic coatings lining root channels and filling pores; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium and coarse prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium irregular black (5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; moderately acid; clear smooth boundary.

C1—58 to 65 inches; brown (10YR 5/3) silt loam; massive; friable; few vertical cleavage planes; few fine vesicular pores; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of cleavage planes; many medium prominent yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium irregular black (5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; slightly acid; gradual smooth boundary.

C2—65 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common fine and medium vesicular pores; few prominent very dark grayish brown (10YR 3/2) organic coatings lining root channels and filling pores; few fine distinct grayish brown (10YR 5/2) iron depletions and few medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few medium irregular black (10YR 2/1) manganese nodules with sharp boundaries; neutral.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 42 to more than 80 inches

*Thickness of the loess:* More than 55 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3 (4 or 5 dry)

Chroma—1 or 2; ranges to 3 in some pedons in eroded areas

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—4 to 7 (6 to 8 dry)

Chroma—1 or 2; some pedons have chroma of 3 and have redoximorphic features

Texture—silt loam

*Bt or Btg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam, silt loam, or silty clay

*BC or CB horizon(s) (where present):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

*C or 2C horizon(s) (where present):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 8

Texture—silt loam, silty clay loam, clay loam, or loam

**113A—Oconee silt loam, 0 to 2 percent slopes*****Setting****Landform:* Ground moraines (fig. 5)*Position on the landform:* Summits***Map Unit Composition***

Oconee and similar soils: 94 percent

Dissimilar soils: 6 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thicker dark surface soil
- Soils that have a lighter colored surface layer
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The poorly drained Cowden and Piasa soils in depressions

***Properties and Qualities of the Oconee Soil****Parent material:* Loess over silty pedisegment*Drainage class:* Somewhat poorly drained*Slowest permeability within a depth of 40 inches:* Slow*Permeability below a depth of 60 inches:* Slow or moderately slow*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 10.3 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* High

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

### **113B—Oconee silt loam, 2 to 5 percent slopes**

#### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

#### ***Map Unit Composition***

Oconee and similar soils: 100 percent

#### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker dark surface soil
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### ***Properties and Qualities of the Oconee Soil***

*Parent material:* Loess over silty pedisegment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 802E—Orthents, loamy, hilly

### **Setting**

*General description:* Cut and fill areas and borrow areas where the soil has been disturbed

*Landform:* Ground moraines

### **Map Unit Composition**

Orthents and similar soils: 85 percent

Dissimilar soils: 15 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that are less sloping

*Dissimilar soils:*

- The moderately well drained Elco soils on backslopes in undisturbed areas
- The moderately well drained Homen soils on summits in undisturbed areas

### **Properties and Qualities of the Orthents**

*Parent material:* Earthy fill from former soil layers and underlying materials

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Osco Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls

*Taxadjunct features:* The Osco soil in map unit 86C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

### **Typical Pedon**

Osco silt loam, 2 to 5 percent slopes, at an elevation of 858 feet; Carroll County, Illinois; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; USGS Lanark, Illinois, topographic quadrangle; lat. 42 degrees 03 minutes 13

seconds N. and long. 89 degrees 45 minutes 48 seconds W.; UTM zone 16, 271330E 4659424N, NAD 83:

- Ap—0 to 10 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.
- A—10 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium and coarse granular structure; friable; common fine roots; strongly acid; clear smooth boundary.
- BA—14 to 20 inches; dark yellowish brown (10YR 3/4) and dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt1—20 to 26 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; few distinct gray (10YR 6/1) (dry) silt coatings and common distinct dark brown (10YR 3/3) organo-clay films on faces of peds; strongly acid; clear smooth boundary.
- Bt2—26 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct light brownish gray (10YR 6/2) (dry) silt coatings and many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine faint brown (10YR 5/3) masses of iron and manganese and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; many prominent very dark gray (N 3/) and dark brown (7.5YR 3/2) masses of iron and manganese concretions; strongly acid; clear smooth boundary.
- Bt3—37 to 45 inches; light yellowish brown (10YR 6/4) silty clay loam; moderate coarse subangular blocky structure; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; strongly acid; gradual smooth boundary.
- BC—45 to 55 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silty clay loam; weak coarse angular blocky structure; friable; few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary.
- C—55 to 60 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation and common medium distinct grayish brown (10YR 5/2) iron depletions; moderately acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches

*Depth to the base of the diagnostic horizon:* 40 to more than 66 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

*C horizon(s):*

Hue—10YR

Value—4 or 5  
 Chroma—3 to 6  
 Texture—silt loam or silty clay loam

## **86B—Osco silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Summits

### ***Map Unit Composition***

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a thinner dark surface layer
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Muscatune soils in the less sloping areas

### ***Properties and Qualities of the Osco Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **86C2—Osco silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Oscos and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a thinner dark surface layer
- Soils that have more sand in the lower part of the subsoil

#### *Dissimilar soils:*

- The somewhat poorly drained Emery soils in positions similar to those of the Osco soil

### **Properties and Qualities of the Osco Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Petrolia Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, nonacid, mesic Fluvaquentic Endoaquepts

### **Typical Pedon**

Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 412 feet; Clinton County, Illinois; 400 feet south and 800 feet west of the center of sec. 29, T. 1 N., R. 3 W.; USGS Addieville, Illinois, topographic quadrangle; lat. 38 degrees 29 minutes 56 seconds N. and long. 89 degrees 27 minutes 28 seconds W.; UTM zone 16, 670017E 4377468N, NAD 83:

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) silty clay loam, light brownish gray (2.5Y 6/2) dry; moderate fine granular structure; friable; common very fine roots; few fine rounded black (N 2.5/) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; neutral; abrupt smooth boundary.

- Bg—8 to 15 inches; dark gray (2.5Y 4/1) silty clay loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) pressure faces on faces of peds; common fine faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; common fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few fine rounded black (N 2.5/) masses of manganese and strong brown (7.5YR 4/6) masses of iron and manganese accumulation throughout; slightly acid; clear smooth boundary.
- Btg1—15 to 26 inches; gray (2.5Y 5/1) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; common fine and medium prominent dark yellowish brown (10YR 4/4) masses of iron and manganese accumulation in the matrix; few fine and medium rounded black (N 2.5/) nodules of manganese oxide with sharp strong brown (7.5YR 4/6) boundaries and few fine prominent strong brown (7.5YR 5/6) irregular masses of iron accumulation throughout; slightly acid; clear smooth boundary.
- Btg2—26 to 42 inches; gray (2.5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium and coarse subangular blocky; firm; few very fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine and medium rounded black (N 2.5/) manganese nodules with sharp strong brown (7.5YR 4/6) boundaries and common fine prominent strong brown (7.5YR 5/6) irregular masses of iron accumulation throughout; slightly acid; gradual smooth boundary.
- BCg—42 to 55 inches; gray (2.5Y 5/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; few distinct dark gray (2.5Y 4/1) clay films lining root channels and pores; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium rounded black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries and common fine and medium prominent strong brown (7.5YR 4/6) irregular masses of iron and manganese accumulation throughout; slightly acid; gradual smooth boundary.
- Cg1—55 to 73 inches; gray (2.5Y 6/1) silty clay loam; massive; firm; few very fine roots in old root channels; few distinct dark gray (2.5Y 4/1) clay films lining root channels and pores; many fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium rounded black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries and common fine and medium prominent strong brown (7.5YR 4/6) irregular masses of iron and manganese accumulation throughout; neutral; diffuse smooth boundary.
- Cg2—73 to 90 inches; gray (2.5Y 6/1) silty clay loam; massive; firm; common medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine irregular black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries and few fine and medium prominent strong brown (7.5YR 4/6) irregular masses of iron and manganese oxides throughout; dark gray (2.5Y 4/1) krotovina; neutral.

### Range in Characteristics

*Depth to carbonates:* More than 60 inches

*Ap or A horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1, 2, or 3

Texture—silty clay loam; less commonly silt loam

*Bg, Btg, and/or BCg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—4 to 6  
 Chroma—0 to 2  
 Texture—silty clay loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—4 to 6  
 Chroma—0 to 2  
 Texture—commonly silty clay loam; below a depth of 40 inches some pedons are silt loam and some contain thin strata of silty clay, silt loam, loam, or fine sandy loam

## **3288A—Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Petrolia and similar soils: 90 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a darker surface soil
- Soils that have a seasonal high water table at a depth of more than 1 foot

*Dissimilar soils:*

- The moderately well drained Wilbur soils in the higher positions

### ***Properties and Qualities of the Petrolia Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season  
*Hydric soil status:* Hydric

## ***Piasa Series***

*Taxonomic classification:* Fine, smectitic, mesic Mollic Natraqualfs

### **Typical Pedon**

Piasa silt loam, 0 to 2 percent slopes, at an elevation of about 630 feet; Montgomery County, Illinois; approximately 277 feet west and 85 feet south of the northeast corner of sec. 26, T. 9 N., R. 4 W.; USGS Hillsboro, Illinois, topographic quadrangle; lat. 39 degrees 12 minutes 08 seconds N. and long. 89 degrees 29 minutes 37 seconds W.; UTM zone 16, 284669E 4342186N, NAD 83:

- Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; common very fine roots; few fine and medium black (5YR 2.5/1) manganese nodules; neutral; abrupt smooth boundary.
- Eg—8 to 12 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; moderate thin and medium platy structure; friable; few very fine roots; light gray (10YR 7/1) (dry) clay depletions on faces of peds; few prominent black (10YR 2/1) organic coatings filling pores; common fine and medium black (5YR 2.5/1) manganese nodules; slightly alkaline; abrupt wavy boundary.
- Btng—12 to 16 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse columnar structure parting to moderate fine angular blocky; firm; few very fine roots; common distinct gray (10YR 6/1) (dry) clay depletions on the slightly rounded caps of the columns and on the faces of the columns; common prominent black (10YR 2/1) organic coatings lining root channels and filling pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent dark yellowish brown (10YR 4/4) and few fine strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly alkaline; clear smooth boundary.
- Btkng1—16 to 20 inches; dark grayish brown (2.5Y 4/2) silty clay; weak very coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; few prominent black (10YR 2/1) organic coatings lining root channels and filling pores; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine faint and few fine prominent dark yellowish brown (10YR 4/4) and strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few fine and medium very dark grayish brown (2.5Y 3/2) iron and manganese and black (10YR 2/1) manganese nodules throughout and few medium rounded white (10YR 8/1) carbonate concretions; slightly effervescent; slightly alkaline; clear smooth boundary.
- Btkng2—20 to 26 inches; dark grayish brown (2.5Y 4/2) silty clay; weak very coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; few prominent black (10YR 2/1) organic coatings lining root channels and filling pores; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine distinct olive brown (2.5Y 4/4) masses of iron and manganese and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium black (10YR 2/1) manganese nodules and common medium and coarse white (10YR 8/1) carbonate concretions; slightly effervescent; moderately alkaline; clear smooth boundary.
- Btkng3—26 to 33 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse prismatic structure parting to weak and moderate medium angular blocky; firm; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces

of peds; common medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine and medium black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries and common medium and coarse white (10YR 8/1) carbonate concretions; slightly effervescent; moderately alkaline; clear smooth boundary.

Btkng4—33 to 37 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak very coarse prismatic structure parting to weak coarse angular blocky; friable; few very fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine and medium black (10YR 2/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries and few medium white (10YR 8/1) carbonate concretions; slightly effervescent; slightly alkaline; clear smooth boundary.

BCg—37 to 48 inches; grayish brown (2.5Y 5/2) silt loam; weak coarse angular blocky structure; friable; few very fine roots; few faint gray (10YR 5/1) clay films on vertical faces of peds; many coarse prominent yellowish brown (10YR 5/6) and common fine and medium strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine black (10YR 2/1) manganese nodules with sharp boundaries; slightly alkaline; clear smooth boundary.

2Btgb1—48 to 62 inches; gray (10YR 5/1) silt loam; moderate fine and medium prismatic structure parting to weak medium angular blocky; friable; few fine roots; few prominent very dark gray (10YR 3/1) organic coatings lining root channels and filling pores and many distinct dark gray (10YR 4/1) clay films on faces of peds; many coarse prominent yellowish brown (10YR 5/8) and reddish brown (5YR 4/4) masses of iron and manganese accumulation in the matrix; few medium and coarse black (10YR 2/1) manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; 1 percent pebbles; slightly alkaline; gradual smooth boundary.

2Btgb2—62 to 80 inches; grayish brown (10YR 5/2) clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; few prominent very dark gray (10YR 3/1) organic coatings lining root channels and filling pores and common distinct dark gray (10YR 4/1) clay films on faces of peds; many medium and coarse prominent yellowish brown (10YR 5/8) and few fine and medium strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; about 5 percent pebbles; neutral.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* 30 to 50 inches

*Thickness of the loess:* 40 to 72 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Eg horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—1 or 2

Texture—silt loam

*Btng, Btkng, or Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*BCg, Cg, 2Btgb, or 2Cg horizon(s) (where present):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam, silty clay loam, loam, or clay loam

## **894A—Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Herrick and Biddle—summits; Piasa—summits and toeslopes

### ***Map Unit Composition***

Herrick and similar soils: 50 percent

Biddle and similar soils: 30 percent

Piasa and similar soils: 20 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil

### ***Properties and Qualities of the Herrick Soil***

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At a depth of 1 to 2 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Biddle Soil***

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Sodium content:* Moderate within a depth of 30 inches

*Available water capacity:* About 11.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High  
*Perched seasonal high water table:* At a depth of 1 to 2 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Piasa Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* High within a depth of 30 inches  
*Available water capacity:* About 7.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Herrick—1; Biddle—2w; Piasa—3w  
*Prime farmland category:* Herrick—prime farmland; Biddle—prime farmland where drained; Piasa—not prime farmland  
*Hydric soil status:* Herrick and Biddle—not hydric; Piasa—hydric

## **993A—Cowden-Piasa silt loams, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines  
*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Cowden and similar soils: 50 percent  
 Piasa and similar soils: 50 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that have a lighter colored surface layer
- Soils that have a thicker dark surface soil
- Soils that have a thinner dark surface layer

### ***Properties and Qualities of the Cowden Soil***

*Parent material:* Loess over silty pedis sediment

*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* High  
*Apparent seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Piasa Soil***

*Parent material:* Loess over silty pedis sediment  
*Drainage class:* Poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Sodium content:* High within a depth of 30 inches  
*Available water capacity:* About 7.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Perched seasonal high water table:* At the surface to 1 foot below the surface  
*Ponding:* At the surface to 0.5 foot above the surface  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Cowden—3w; Piasa—3w  
*Prime farmland category:* Cowden—prime farmland where drained; Piasa—not prime farmland  
*Hydric soil status:* Cowden—hydric; Piasa—hydric

## **864—Pits, quarries**

- This map unit consists of an open excavation from which limestone has been removed or is being removed.

### ***Map Unit Composition***

Pit, quarries: 90 percent  
 Dissimilar components: 10 percent

#### ***Dissimilar components:***

- The well drained Bold, Goss, Hamburg, Lacrescent, and Sylvan soils on backslopes in undisturbed areas

- The well drained Fayette soils on summits, shoulders, and backslopes in undisturbed areas
- Stockpiles of stone and debris

### ***Interpretive Groups***

*Land capability classification:* None assigned

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not applicable

### ***Quiver Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents

### **Typical Pedon**

Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration, at an elevation of about 439 feet; Fulton County, Illinois; 2,049 feet north and 3,351 feet east of the southwest corner of sec. 24, T. 6 N., R. 5 E.; USGS Duck Island, Illinois, topographic quadrangle; lat. 40 degrees 29 minutes 10 seconds N. and long. 89 degrees 53 minutes 25 seconds W.; UTM zone 16, 255018E 4485700N, NAD 83:

- Cg1—0 to 9 inches; very dark gray (2.5Y 3/1) silty clay loam with fine strata of dark grayish brown (2.5Y 4/2) silty clay loam; grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; firm; many very fine roots; few fine prominent reddish brown (5YR 4/4) masses of iron and manganese accumulation and few fine faint black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; neutral; clear smooth boundary.
- Cg2—9 to 14 inches; dark gray (2.5Y 4/1) silty clay loam with fine strata of dark grayish brown (2.5Y 4/2) silty clay loam; grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; firm; many very fine roots; common fine prominent reddish brown (5YR 4/4) masses of iron and manganese accumulation and few fine distinct black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.
- Cg3—14 to 25 inches; dark gray (2.5Y 4/1) silty clay loam; massive; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; common fine prominent reddish brown (5YR 4/4) masses of iron and manganese accumulation and few fine distinct black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.
- Cg4—25 to 34 inches; very dark gray (5Y 3/1) silty clay loam; massive with thin bedding planes; firm; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; common fine prominent reddish brown (5YR 4/4) masses of iron and manganese accumulation and few fine faint black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores and root channels; slightly alkaline; clear smooth boundary.
- Cg5—34 to 45 inches; dark gray (5Y 4/1) silty clay loam; massive with thin bedding planes; firm; few distinct very dark grayish brown (10YR 3/2) organic coatings lining pores; many fine prominent dark red (2.5YR 3/6) masses of iron and manganese accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation with diffuse boundaries lining pores; slightly alkaline; clear smooth boundary.

Cg6—45 to 65 inches; dark grayish brown (2.5Y 4/2) silty clay loam; massive; firm; many medium prominent dark red (2.5YR 3/6) masses of iron and manganese accumulation with diffuse boundaries lining pores; slightly alkaline.

#### **Range in Characteristics**

*Cg horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

### **3641L—Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration**

#### ***Setting***

*Landform:* Flood plains

#### ***Map Unit Composition***

Quiver and similar soils: 90 percent

Dissimilar soils: 10 percent

#### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay throughout
- Soils that do not have strata in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Wakeland soils in the higher positions

#### ***Properties and Qualities of the Quiver Soil***

*Parent material:* Alluvium

*Drainage class:* Very poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 1 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 5w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## **Radford Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls

### **Typical Pedon**

Radford silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 567 feet; Cass County, Illinois; 2,700 feet east and 1,320 feet south of the northwest corner of sec. 2, T. 17 N., R. 9 W.; USGS Ashland, Illinois, topographic quadrangle; lat. 39 degrees 57 minutes 24 seconds N. and long. 90 degrees 04 minutes 47 seconds W.; UTM zone 15, 749465E 4427002N, NAD 83:

- Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure parting to moderate fine and medium granular; friable; few very fine roots; neutral; clear smooth boundary.
- A—7 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.
- C—12 to 33 inches; dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) silt loam with common thin grayish brown (10YR 5/2) and brown (10YR 5/3) lenses; massive; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings in worm channels; few fine rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries throughout; neutral; clear smooth boundary.
- Ab1—33 to 42 inches; very dark gray (10YR 3/1) silt loam; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; few fine rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.
- Ab2—42 to 72 inches; very dark gray (10YR 3/1) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; few distinct gray (10YR 6/1) (dry) clay depletions on faces of peds; few fine rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- Bgb—72 to 80 inches; grayish brown (10YR 5/2) silt loam; moderate medium prismatic structure parting to weak medium subangular blocky; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings lining root channels and pores; slightly alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 20 inches

*Depth to the buried soil:* 20 to 40 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*C horizon(s):*

Hue—10YR

Value—2 to 6

Chroma—1 to 4

Texture—silt loam

*Ab horizon(s):*

Hue—10YR or N

Value—2 or 3

Chroma—0 or 1

Texture—silt loam, silty clay loam, clay loam, or loam

*Bgb horizon(s) (where present):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silt loam, silty clay loam, clay loam, or loam

**3074A—Radford silt loam, 0 to 2 percent slopes,  
frequently flooded*****Setting****Landform:* Flood plains***Map Unit Composition***

Radford and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have more clay in the buried subsoil
- Soils that have a buried soil below a depth of 40 inches
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The well drained Huntsville soils in the slightly higher positions
- The poorly drained Sawmill soils in swales

***Properties and Qualities of the Radford Soil****Parent material:* Alluvium*Drainage class:* Somewhat poorly drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.3 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 4.0 percent*Shrink-swell potential:* Moderate*Apparent seasonal high water table:* At a depth of 1 to 2 feet*Frequency and most likely period of flooding:* Frequent, November to June*Potential for frost action:* High*Hazard of corrosion:* High for steel and low for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 3w*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season*Hydric soil status:* Not hydric

## ***Ridgway Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Ridgway silt loam, 0 to 2 percent slopes, at an elevation of about 361 feet; White County, Illinois; 900 feet west and 354 feet south of the northeast corner of sec. 1, T. 7 S., R. 10 E.; USGS Emma, Illinois, topographic quadrangle; lat. 37 degrees 57 minutes 00 seconds N. and long. 88 degrees 02 minutes 48 seconds W.; UTM zone 16, 408051E 4200789N, NAD 83:

- Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; weak fine granular structure; friable; common very fine roots; neutral; abrupt smooth boundary.
- BE—10 to 14 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) silt coatings on faces of pedes; neutral; clear smooth boundary.
- Bt1—14 to 22 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of pedes; neutral; gradual smooth boundary.
- Bt2—22 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of pedes; slightly acid; clear smooth boundary.
- 2Bt3—30 to 39 inches; yellowish brown (10YR 5/6) clay loam; weak coarse subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of pedes; moderately acid; clear smooth boundary.
- 2Bt4—39 to 49 inches; strong brown (7.5YR 4/6) sandy loam; weak coarse subangular blocky structure; very friable; few distinct brown (7.5YR 4/4) clay films on faces of pedes; moderately acid; gradual smooth boundary.
- 2E and Bt—49 to 80 inches; yellowish brown (10YR 5/6) loamy sand (E); brown (7.5YR 4/4) sandy loam lamellae (Bt); single grain and loose (E); massive and very friable (Bt); few distinct brown (7.5YR 4/4) clay films occurring as bridges between sand grains (Bt); moderately acid.

### **Range in Characteristics**

*Thickness of the loess:* 24 to 40 inches

*Depth to the base of the diagnostic horizon:* 70 to more than 80 inches

*Ap or A horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam

*Bt or BE horizon(s):*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam

*2Bt horizon(s):*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—clay loam, loam, sandy clay loam, or sandy loam

*2E and Bt horizon(s):*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—sand, loamy sand, or sandy loam or the fine or very fine analogs of these textures

**434B—Ridgway silt loam, 2 to 5 percent slopes*****Setting****Landform:* Stream terraces*Position on the landform:* Shoulders***Map Unit Composition***

Ridgway and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have more sand and less clay in the surface layer and in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Geff soils in the less sloping positions

***Properties and Qualities of the Ridgway Soil****Parent material:* Loess over sandy outwash*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 9.2 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 2e*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric

## 7434B—Ridgway silt loam, 2 to 5 percent slopes, rarely flooded

### *Setting*

*Landform:* Stream terraces

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Ridgway and similar soils: 85 percent

Dissimilar soils: 15 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have less sand in the lower part of the subsoil and in the underlying material
- Soils that have more sand and less clay in the surface layer and in the upper part of the subsoil
- Soils that have a seasonal high water table at a depth of 4 to 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Wakeland soils in the lower positions
- The moderately well drained Wilbur soils in the lower positions
- The somewhat poorly drained Geff soils in the less sloping positions

### *Properties and Qualities of the Ridgway Soil*

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Rozetta Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Rozetta silt loam, 0 to 2 percent slopes, at an elevation of 890 feet; Stephenson County, Illinois; 150 feet south and 500 feet east of the center of sec. 18, T. 27 N., R. 6 E.; USGS Pearl City, Illinois, topographic quadrangle; lat. 42 degrees 20 minutes 00

seconds N. and long. 89 degrees 51 minutes 19 seconds W.; UTM zone 16, 264752E 4690738N, NAD 83:

- A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; many fine roots throughout; moderately acid; clear wavy boundary.
- E—4 to 11 inches; dark grayish brown (10YR 4/2) silt loam; weak medium platy structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.
- BE—11 to 14 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; firm; many fine roots between peds; few faint brown (10YR 5/3) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many fine roots between peds; many faint brown (10YR 5/3) clay films on faces of peds; strongly acid; clear smooth boundary.
- Bt2—21 to 39 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common faint pale brown (10YR 6/3) (dry) silt coatings on faces of peds; common medium faint light yellowish brown (10YR 6/4) and brown (10YR 4/3) masses of iron and manganese accumulation in the matrix; few medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.
- Bt3—39 to 50 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse subangular blocky structure; firm; common fine roots; few faint brown (10YR 4/3) clay films on faces of peds; common medium faint pale brown (10YR 6/3) and common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- C—50 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon: 42 to 72 inches*

*Ap or A horizon(s):*

Hue—10YR  
Value—3 to 5  
Chroma—1 to 3  
Texture—silt loam or silty clay loam

*E horizon(s) (where present):*

Hue—10YR  
Value—4 to 6  
Chroma—2 or 3  
Texture—silt loam

*Bt horizon(s):*

Hue—10YR or 7.5YR  
Value—4 to 6  
Chroma—3 to 6  
Texture—silty clay loam

*C horizon(s):*

Hue—10YR  
Value—4 to 6

Chroma—2 to 6  
Texture—silt loam or silty clay loam

## **279B—Rozetta silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines (fig. 6)  
*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Rozetta and similar soils: 91 percent  
Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a thinner surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have a dark surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions
- The somewhat poorly drained Bunkum soils in the more sloping positions downslope from those of the Rozetta soil

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 4 to 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **279C2—Rozetta silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines (fig. 6)  
*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Rozetta and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions
- The somewhat poorly drained Bunkum soils in positions similar to those of the Rozetta soil

### **Properties and Qualities of the Rozetta Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **279C3—Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Rozetta and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet

- Soils that have less clay in the surface layer
- Soils that have less clay in the subsoil
- Soils that have more sand in the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions
- The somewhat poorly drained Bunkum soils in positions similar to those of the Rozetta soil

***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Very low

***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**279D2—Rozetta silt loam, 10 to 18 percent slopes, eroded**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

***Map Unit Composition***

Rozetta and similar soils: 95 percent

Dissimilar soils: 5 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **279D3—Rozetta silty clay loam, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Rozetta and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have less clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.2 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 4 to 6 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* 4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **9279B—Rozetta silt loam, terrace, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Stream terraces  
*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Rozetta and similar soils: 95 percent  
 Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more sand in the lower part of the subsoil

#### *Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess or other silty material  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 4 to 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **9279C2—Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Rozetta and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have more clay in the surface layer
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more sand and less clay in the surface soil and in the upper part of the subsoil
- Soils that have carbonates at a depth of less than 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils in the less sloping positions

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess or other silty material

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **9279D3—Rozetta silty clay loam, terrace, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Rozetta and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have less clay in the surface layer
- Soils that have more sand in the lower part of the subsoil and in the underlying material
- Soils that have more clay in the lower part of the subsoil and in the underlying material

*Dissimilar soils:*

- The well drained Rozetta soils on summits
- The somewhat poorly drained Kendall and Wakeland soils in the lower positions
- The moderately well drained Blyton soils in the lower positions

### ***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess or other silty material

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 4 to 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Rushville Series***

*Taxonomic classification:* Fine, smectitic, mesic Typic Albaqualfs

### **Typical Pedon**

Rushville silt loam, 0 to 2 percent slopes, at an elevation of 695 feet; Adams County, Illinois; 2,150 feet east and 250 feet south of the northwest corner of sec. 23, T. 1 S., R. 6 W.; USGS Liberty, Illinois, topographic quadrangle; lat. 39 degrees 58 minutes 29 seconds N. and long. 91 degrees 03 minutes 37 seconds W.; UTM zone 15, 665629E 4426758N, NAD 83:

- Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure parting to moderate fine granular; friable; common fine roots; many fine distinct black (2.5Y 2/1) masses of manganese accumulation and few fine and medium distinct black (2.5Y 2/1) manganese nodules throughout and many distinct very pale brown (10YR 8/2) clay depletions between pedes; neutral; clear smooth boundary.
- Eg—7 to 13 inches; grayish brown (10YR 5/2) silt loam, very pale brown (10YR 8/2) dry; weak thick platy structure parting to moderate fine subangular blocky; friable; common fine roots; common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout, many fine prominent black (2.5Y 2/1) manganese nodules throughout, and many distinct white (10YR 8/1) clay depletions throughout; neutral; clear smooth boundary.
- Btg1—13 to 21 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; friable; common fine and medium roots; many distinct grayish brown (10YR 5/2) clay films on faces of pedes; few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation, and few prominent black (2.5Y 2/1) manganese nodules throughout; strongly acid; clear wavy boundary.
- Btg2—21 to 26 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of pedes; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and few prominent black (2.5Y 2/1) manganese nodules throughout; moderately acid; clear wavy boundary.
- Btg3—26 to 32 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films and many distinct white (10YR 8/1) silt coatings on faces of pedes; few fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, and common fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.
- Btg4—32 to 43 inches; light brownish gray (10YR 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium and coarse subangular blocky; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores and very few distinct white (10YR 8/1) silt coatings on vertical faces of pedes; many fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout, common fine prominent black (2.5Y 2/1) masses of manganese accumulation throughout, and few fine faint gray (10YR 6/1) iron depletions throughout; moderately acid; clear wavy boundary.
- BCtg—43 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few distinct grayish brown (10YR 5/2) clay films in root channels and/or pores; common medium prominent yellowish brown (10YR 5/8)

and common fine prominent brownish yellow (10YR 6/8) masses of iron accumulation throughout; moderately acid; clear wavy boundary.

Cg1—50 to 74 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many medium and coarse prominent strong brown (7.5YR 5/8) and common medium distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout; slightly acid; clear wavy boundary.

Cg2—74 to 85 inches; light brownish gray (10YR 6/2) silt loam; massive; firm; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation throughout; neutral.

### Range in Characteristics

*Depth to carbonates:* More than 50 inches

*Depth to the base of the diagnostic horizon:* 40 to 60 inches

*Ap or A horizon(s):*

Hue—10YR

Value—2 to 5

Chroma—1 or 2

Texture—silt loam

*Eg horizon(s):*

Hue—10YR

Value—5 or 6

Chroma—1 or 2

Texture—silt loam or silt

*Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam or silty clay loam

## 16A—Rushville silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits and depressions

### Map Unit Composition

Rushville and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have less clay in the subsoil

- Soils that have more sand in the lower part of the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot

*Dissimilar soils:*

- The well drained Rozetta soils on summits

### ***Properties and Qualities of the Rushville Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## ***Sable Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Endoaquolls

### ***Typical Pedon***

Sable silty clay loam, 0 to 2 percent slopes, at an elevation of 732 feet; Warren County, Illinois; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; USGS Kirkwood East, Illinois, topographic quadrangle; lat. 40 degrees 46 minutes 22 seconds N. and long. 90 degrees 41 minutes 34 seconds W.; UTM zone 15, 694709E 4516111N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.

A—8 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine faint rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

AB—19 to 23 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine faint rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; slightly acid; clear smooth boundary.

Bg—23 to 29 inches; dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium distinct rounded dark

reddish brown (5YR 3/2) iron and manganese concretions throughout; common medium distinct brown (10YR 5/3) masses of iron and manganese accumulation in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Btg2—38 to 47 inches; gray (N 5/) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct rounded dark reddish brown (5YR 3/2) iron and manganese concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 6/) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 12 to 24 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of the diagnostic horizon:* 40 to 60 inches

*Other features:* Some pedons have a BC or BCg horizon.

*Ap or A horizon(s):*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam or silt loam

*AB or BA horizon(s) (where present):*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam

*Btg or Bg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silt loam or silty clay loam

## 68A—Sable silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines (fig. 6)

*Position on the landform:* Toeslopes

### **Map Unit Composition**

Sable and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot

#### *Dissimilar soils:*

- The well drained Osco soils in the more sloping positions

### **Properties and Qualities of the Sable Soil**

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 5.0 to 6.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Sawmill Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

### **Typical Pedon**

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 535 feet; Sangamon County, Illinois; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; USGS New City, Illinois, topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W.; UTM zone 16, 279712E 4402375N, NAD 83:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; slightly acid; clear smooth boundary.

A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure;

firm; few fine roots; few subrounded pebbles 1 to 3 mm in diameter; few fine faint rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots; few fine faint rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine roots; few fine faint rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine distinct rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; common distinct gray (10YR 5/1) clay films on faces of peds; few fine prominent rounded black (7.5YR 2.5/1), weakly cemented manganese concretions with diffuse boundaries lining pores; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation lining pores; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Depth to the base of the diagnostic horizon:* 36 to 60 inches

*Ap, A, or AB horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

*Bg or Btg horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2  
Texture—silty clay loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, or 5Y  
Value—3 to 6  
Chroma—1 or 2  
Texture—silty clay loam, clay loam, silt loam, or loam

## **3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Sawmill and similar soils: 92 percent  
Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand in the subsoil
- Soils that have less clay in the subsoil
- Soils that have a seasonal high water table at a depth of more than 1 foot

*Dissimilar soils:*

- The well drained Huntsville soils in the higher positions

### ***Properties and Qualities of the Sawmill Soil***

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.5 to 7.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## ***Stronghurst Series***

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

### **Typical Pedon**

Stronghurst silt loam, 0 to 2 percent slopes, at an elevation of 680 feet; Bureau County, Illinois; 582 feet south and 78 feet west of the northeast corner of sec. 23, T. 16 N., R. 8 E.; USGS Wyanet, Illinois, topographic quadrangle; lat. 41 degrees 16 minutes 32 seconds N. and long. 89 degrees 31 minutes 47 seconds W.; UTM zone 16, 288118E 4572438N, NAD 83:

- Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; few fine roots; common fine prominent black (5YR 2/1) masses of manganese accumulation throughout; neutral; abrupt smooth boundary.
- E—8 to 13 inches; brown (10YR 5/3) silt loam; moderate thin and very thin platy structure; friable; few fine roots; common fine distinct yellowish brown (10YR 5/6) and prominent yellowish brown (10YR 5/8) masses of iron accumulation and common fine prominent black (5YR 2/1) masses of manganese accumulation throughout; common fine faint light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.
- Bt1—13 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct grayish brown (10YR 5/2) clay films and many distinct light gray (10YR 7/2) silt coatings on faces of peds; common fine prominent yellowish brown (10YR 5/8) and distinct strong brown (7.5YR 5/6) masses of iron accumulation and common fine distinct black (10YR 2/1) masses of manganese accumulation throughout; common fine distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.
- Bt2—24 to 30 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) and distinct strong brown (7.5YR 5/6) masses of iron accumulation and common fine distinct black (10YR 2/1) masses of manganese accumulation throughout; common fine distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.
- Bt3—30 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) and distinct strong brown (7.5YR 5/6) masses of iron accumulation and common distinct fine black (10YR 2/1) masses of manganese accumulation throughout; common fine distinct light brownish gray (10YR 6/2) iron depletions throughout; strongly acid; clear smooth boundary.
- Bt4—38 to 47 inches; yellowish brown (10YR 5/4) silty clay loam; moderate coarse prismatic structure; friable; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation and common fine distinct black (10YR 2/1) masses of manganese accumulation throughout; common fine distinct light brownish gray (10YR 6/2 and 2.5Y 6/2) iron depletions throughout; strongly acid; gradual smooth boundary.
- C—47 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; common fine faint strong brown (7.5YR 5/6) masses of iron accumulation and common fine prominent black (10YR 2/1) masses of manganese accumulation throughout; common fine prominent light brownish gray (2.5Y 6/2) iron depletions throughout; moderately acid.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* More than 42 inches

*Depth to the top of the argillic horizon:* 6 to 24 inches

*Ap or A horizon(s):*

Hue—10YR

Value—3 to 6

Chroma—1 or 2

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—2 or 3

Texture—silt loam

*Bt or Btg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silt loam

*C or Cg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt loam or silty clay loam

## 278A—Stronghurst silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Stronghurst and similar soils: 97 percent

Dissimilar soils: 3 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The well drained Rozetta soils in the more sloping positions
- The poorly drained Rushville soils in depressions

### Properties and Qualities of the Stronghurst Soil

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w  
*Prime farmland category:* Prime farmland where drained  
*Hydric soil status:* Not hydric

## **9278A—Stronghurst silt loam, terrace, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces  
*Position on the landform:* Summits

### ***Map Unit Composition***

Stronghurst and similar soils: 85 percent  
 Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have more clay in the subsoil
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet
- Soils that have more sand in the lower part of the subsoil and in the underlying material

#### ***Dissimilar soils:***

- The well drained Rozetta soils in the more sloping positions
- The poorly drained Rushville soils in depressions

### ***Properties and Qualities of the Stronghurst Soil***

*Parent material:* Loess or other silty material  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Sylvan Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Sylvan silt loam, in an area of Sylvan-Bold silt loams, 18 to 35 percent slopes, at an elevation of 620 feet; Cass County, Illinois; 210 feet south and 2,580 feet west of the northeast corner of sec. 28, T. 18 N., R. 10 W.; USGS Virginia, Illinois, topographic quadrangle; lat. 39 degrees 59 minutes 21 seconds N. and long. 90 degrees 13 minutes 44 seconds W.; UTM zone 15, 736584E 4430238N, NAD 83:

- A—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
- E1—4 to 8 inches; dark brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; few very fine and medium roots; many faint dark grayish brown (10YR 4/2) clay depletions on faces of peds; moderately acid; clear smooth boundary.
- E2—8 to 10 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay depletions on faces of peds; slightly acid; clear smooth boundary.
- Bt1—10 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—17 to 23 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine angular and subangular blocky structure; friable; few very fine and medium roots; many distinct dark yellowish brown (10YR 4/4) and few distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- BCt—23 to 27 inches; yellowish brown (10YR 5/6) silt loam; weak fine and medium subangular blocky structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films lining pores; neutral; clear smooth boundary.
- C1—27 to 41 inches; 80 percent yellowish brown (10YR 5/6) and 20 percent light brownish gray (10YR 6/2) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; few fine and medium snail shells; strongly effervescent; slightly alkaline; clear smooth boundary.
- C2—41 to 64 inches; 60 percent light brownish gray (10YR 6/2) and 40 percent yellowish brown (10YR 5/6) silt loam; massive; friable; few very fine roots; the light brownish gray matrix color is a relict feature; common fine and medium snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.
- Cg—64 to 80 inches; 55 percent light brownish gray (10YR 6/2) and 45 percent yellowish brown (10YR 5/6) silt loam; massive; friable; common medium prominent irregular reddish yellow (7.5YR 6/8) and few fine prominent irregular strong brown (7.5YR 4/6) masses of iron and manganese accumulation lining pores; common fine and medium snail shells; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Depth to the base of the diagnostic horizon:* Typically 22 to 35 inches; ranges to 40 inches in some pedons

*Depth to carbonates:* 22 to 40 inches

*Other features:* Some pedons have an EB or BE horizon.

*Ap horizon(s):*

Hue—10YR

Value—4 to 6 (6 or 7 dry)

Chroma—2 to 4

Texture—silt loam; silty clay loam in some pedons in eroded areas

*A horizon(s):*

Hue—10YR

Value—3 to 5 (5 or 6 dry)

Chroma—2 or 3

Texture—silt loam

*E horizon(s):*

Hue—10YR

Value—4 or 5 (5 or 6 dry)

Chroma—2 to 4

Texture—silt loam

*Bt, BCt, or BC horizon(s):*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Texture—typically silty clay loam; subhorizons of silt loam in some pedons

*C or Cg horizon(s):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silt

## 962D2—Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded

### Setting

*Landform:* Ground moraines; loess hills

*Position on the landform:* Backslopes

### Map Unit Composition

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The well drained Fayette soils on summits

***Properties and Qualities of the Sylvan Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.1 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer has been thinned by erosion.*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and low for concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Properties and Qualities of the Bold Soil****Parent material:* Calcareous loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 13.3 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 2.0 percent*Shrink-swell potential:* Low*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer has been thinned by erosion.*Potential for frost action:* High*Hazard of corrosion:* Low for steel and concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Sylvan—3e; Bold—3e*Prime farmland category:* Not prime farmland*Hydric soil status:* Sylvan—not hydric; Bold—not hydric**962D3—Sylvan-Bold complex, 10 to 18 percent slopes,  
severely eroded*****Setting****Landform:* Loess hills; ground moraines*Position on the landform:* Backslopes

### **Map Unit Composition**

Sylvan and similar soils: 60 percent

Bold and similar soils: 30 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent

#### *Dissimilar soils:*

- The well drained Fayette soils on summits

### **Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### **Properties and Qualities of the Bold Soil**

*Parent material:* Calcareous loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Sylvan—4e; Bold—4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **962E2—Sylvan-Bold silt loams, 18 to 25 percent slopes, eroded**

### ***Setting***

*Landform:* Loess hills; ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 60 percent

Bold and similar soils: 30 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of more than 25 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

*Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—6e; Bold—6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **962F—Sylvan-Bold silt loams, 18 to 35 percent slopes**

### ***Setting***

*Landform:* Loess hills (fig. 7)

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 50 percent

Bold and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of more than 35 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

*Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Seasonal high water table:* At a depth of more than 6 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—6e; Bold—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **962G—Sylvan-Bold silt loams, 35 to 60 percent slopes**

### ***Setting***

*Landform:* Loess hills (fig. 7)  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 50 percent  
 Bold and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 35 percent
- Soils that have more clay in the surface layer
- Soils that have more clay and rock fragments in the lower part of the subsoil and in the underlying material

#### *Dissimilar soils:*

- The well drained Fayette soils on summits
- The well drained Goss soils in positions similar to those of the major soils

### ***Properties and Qualities of the Sylvan Soil***

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Bold Soil***

*Parent material:* Calcareous loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Seasonal high water table:* At a depth of more than 6 feet  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Sylvan—7e; Bold—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Sylvan—not hydric; Bold—not hydric

## **9962D3—Sylvan-Bold complex, terrace, 10 to 18 percent slopes, severely eroded**

### ***Setting***

*Landform:* Stream terraces  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Sylvan and similar soils: 60 percent  
 Bold and similar soils: 30 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have carbonates at a depth of more than 40 inches
- Soils that have slopes of less than 10 percent
- Soils that have less clay in the surface layer
- Soils that have more sand in the surface soil and in the upper part of the subsoil

*Dissimilar soils:*

- The well drained Ridgway soils on summits
- The well drained Drury soils in the lower positions
- The moderately well drained Blyton soils in the lower positions

***Properties and Qualities of the Sylvan Soil****Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.1 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 0.2 to 1.0 percent*Shrink-swell potential:* Moderate*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer is mostly subsoil material.*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and low for concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Properties and Qualities of the Bold Soil****Parent material:* Calcareous loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 13.2 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 0.2 to 1.0 percent*Shrink-swell potential:* Low*Seasonal high water table:* At a depth of more than 6 feet*Flooding:* None*Accelerated erosion:* The surface layer is mostly subsoil material.*Potential for frost action:* High*Hazard of corrosion:* Low for steel and concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Sylvan—4e; Bold—4e*Prime farmland category:* Not prime farmland*Hydric soil status:* Sylvan—not hydric; Bold—not hydric***Tice Series****Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls***Typical Pedon***

Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of about 465 feet; Adams County, Illinois; 1,670 feet north and 990 feet west of the southeast corner of sec. 22, T. 2 S., R. 9 W.; USGS Quincy West, Illinois, topographic

quadrangle; lat. 39 degrees 52 minutes 56 seconds N. and long. 91 degrees 25 minutes 08 seconds W.; UTM zone 15, 635209E 4415887N, NAD 83:

- Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak medium granular; firm; common very fine roots throughout; neutral; abrupt smooth boundary.
- A—9 to 14 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; firm; few very fine roots throughout; few fine faint brown (10YR 4/3) masses of iron and manganese accumulation in the matrix; neutral; clear smooth boundary.
- BA—14 to 19 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine faint brown (7.5YR 4/3) masses of iron and manganese accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bw—19 to 35 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bg1—35 to 44 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots throughout; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; many medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; moderately acid; gradual smooth boundary.
- Bg2—44 to 61 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid; clear smooth boundary.
- Bg3—61 to 80 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium prismatic structure; firm; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium prominent strong brown (7.5YR 4/6) masses of iron and manganese accumulation in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to the base of the diagnostic horizon:* 30 to more than 80 inches

*Other features:* Some pedons have an AB or BA horizon.

*Ap or A horizon(s):*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Bw or Bg horizon(s):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 4

Texture—silty clay loam or silt loam

*BC or BCg horizon(s) (where present):*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—1 to 4

Texture—silty clay loam or silt loam; strata of loam, clay loam, or sandy loam in some pedons

*Cg or C horizon(s) (where present):*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 3

Texture—typically stratified silty clay loam, clay loam, loam, sandy loam, or silt loam

**8284A—Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded*****Setting****Landform:* Flood plains***Map Unit Composition***

Tice and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less clay in the surface soil and subsoil
- Soils that have a thinner dark surface soil
- Soils that have more sand in the surface soil and subsoil
- Soils that have a dark surface soil more than 24 inches thick

*Dissimilar soils:*

- The poorly drained Beaucoup soils in depressions

***Properties and Qualities of the Tice Soil****Parent material:* Alluvium*Drainage class:* Somewhat poorly drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 12.4 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 4.0 percent*Shrink-swell potential:* Moderate*Apparent seasonal high water table:* At a depth of 1 to 2 feet*Frequency and most likely period of flooding:* Occasional, November to June*Potential for frost action:* High*Hazard of corrosion:* High for steel and low for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Virden Series**

*Taxonomic classification:* Fine, smectitic, mesic Vertic Argiaquolls

### **Typical Pedon**

Virden silty clay loam, 0 to 2 percent slopes, at an elevation of 699 feet; Adams County, Illinois; 140 feet west and 54 feet north of the southeast corner of sec. 3, T. 2 N., R. 6 W.; USGS Bowen, Illinois, topographic quadrangle; lat. 40 degrees 10 minutes 49 seconds N. and long. 91 degrees 04 minutes 00 seconds W.; UTM zone 15, 664587E 4449564N, NAD 83:

- Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; slightly alkaline; abrupt smooth boundary.
- A—8 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; moderately acid; clear smooth boundary.
- Btg1—16 to 23 inches; very dark gray (10YR 3/1) silty clay, grayish brown (10YR 5/2) dry; strong fine angular blocky structure; firm; few faint black (10YR 2/1) organo-clay films on faces of peds; few fine faint black (10YR 2/1) manganese concretions throughout; slightly acid; clear smooth boundary.
- Btg2—23 to 34 inches; gray (5Y 5/1) silty clay loam; weak coarse prismatic structure parting to moderate medium angular blocky; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many medium prominent brownish yellow (10YR 6/6) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; slightly acid; clear smooth boundary.
- Btg3—34 to 42 inches; gray (5Y 5/1) silty clay loam; weak and moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; few distinct dark gray (5Y 4/1) clay films on faces of peds; common medium prominent light olive brown (2.5Y 5/6) masses of iron accumulation and few fine prominent black (10YR 2/1) masses of manganese accumulation throughout; neutral; clear smooth boundary.
- Btg4—42 to 49 inches; gray (5Y 5/1) silty clay loam; moderate coarse prismatic structure parting to weak coarse angular blocky; firm; very few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent olive brown (2.5Y 4/4) masses of iron and manganese accumulation throughout; neutral; gradual smooth boundary.
- Cg—49 to 60 inches; gray (5Y 5/1) silty clay loam; massive; firm; common medium prominent olive brown (2.5Y 4/4) masses of iron and manganese accumulation throughout; neutral.

### **Range in Characteristics**

*Depth to carbonates (if they occur):* More than 50 inches

*Depth to the base of the diagnostic horizon:* 40 to 60 inches

*Thickness of the mollic epipedon:* 10 to 24 inches

*Ap or A horizon(s):*

Hue—10YR, 2.5Y, or 5Y

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Btg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—2 to 6  
 Chroma—0 to 4  
 Texture—silty clay loam, silty clay, or silt loam

*Cg horizon(s):*

Hue—10YR, 2.5Y, 5Y, or N  
 Value—4 to 6  
 Chroma—0 to 4  
 Texture—silty clay loam or silt loam

**47A—Virden silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines (fig. 5)  
*Position on the landform:* Toeslopes

***Map Unit Composition***

Virden and similar soils: 100 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have more clay in the surface layer
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have a lighter colored subsurface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot

***Properties and Qualities of the Virden Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## 50A—Virден silty clay loam, 0 to 2 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

### *Map Unit Composition*

Virден and similar soils: 100 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have less clay in the subsoil
- Soils that have less clay in the surface layer
- Soils that have a dark surface soil more than 24 inches thick
- Soils that have a lighter colored subsurface layer
- Soils that have a seasonal high water table at a depth of more than 1 foot

### *Properties and Qualities of the Virден Soil*

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## 885A—Virден-Fosterburg silt loams, 0 to 2 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Toeslopes

### *Map Unit Composition*

Virден and similar soils: 50 percent

Fosterburg and similar soils: 50 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 1 foot

- Soils that have a lighter colored surface soil
- Soils that have a thinner dark surface soil and a lighter colored subsurface layer
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer

### ***Properties and Qualities of the Virden Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Properties and Qualities of the Fosterburg Soil***

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Sodium content:* Moderate within a depth of 30 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* High

*Apparent seasonal high water table:* At the surface to 1 foot below the surface

*Ponding:* At the surface to 0.5 foot above the surface

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Virden—2w; Fosterburg—3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Virden—hydric; Fosterburg—hydric

## ***Wakeland Series***

*Taxonomic classification:* Coarse-silty, mixed, superactive, nonacid, mesic Aeric  
Fluvaquents

### **Typical Pedon**

Wakeland silt loam, 0 to 2 percent slopes, frequently flooded, at an elevation of 645

feet; Adams County, Illinois; 1,240 feet east and 840 feet north of the southwest corner of sec. 5, T. 1 S., R. 6 W.; USGS Camp Point, Illinois, topographic quadrangle; lat. 40 degrees 00 minutes 28 seconds N. and long. 91 degrees 07 minutes 11 seconds W.; UTM zone 15, 660475E 4430319N, NAD 83:

- Ap*—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, very pale brown (10YR 7/3) dry; weak fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.
- A*—6 to 10 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; weak fine granular structure; friable; few fine roots; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation throughout, common fine distinct black (10YR 2/1) masses of manganese accumulation throughout, and common fine faint grayish brown (10YR 5/2) iron depletions throughout; moderately acid; abrupt smooth boundary.
- Cg1*—10 to 21 inches; stratified, 88 percent dark grayish brown (10YR 4/2) and 2 percent light yellowish brown (10YR 6/4) silt loam; weak fine granular structure; friable; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid; gradual smooth boundary.
- Cg2*—21 to 35 inches; stratified 88 percent dark grayish brown (10YR 4/2) and 2 percent grayish brown (10YR 5/2) silt loam; weak very fine granular structure; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid; gradual smooth boundary.
- Cg3*—35 to 50 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron and few fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation throughout and common fine faint gray (10YR 5/1) iron depletions throughout; moderately acid; gradual smooth boundary.
- Cg4*—50 to 65 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions throughout; moderately acid; gradual smooth boundary.
- Cg5*—65 to 80 inches; dark gray (10YR 4/1) silt loam; massive; friable; common fine and medium distinct yellowish brown (10YR 5/4) masses of iron and manganese and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation throughout and common fine faint gray (10YR 5/1) iron depletions throughout; slightly acid.

### Range in Characteristics

*Ap* or *A* horizon(s):

Hue—10YR  
 Value—3 to 5  
 Chroma—1 to 4  
 Texture—silt loam

*Cg* or *C* horizon(s):

Hue—10YR, 7.5YR, or 2.5Y  
 Value—4 to 7  
 Chroma—1 to 6  
 Texture—silt loam or loam

## **3333A—Wakeland silt loam, 0 to 2 percent slopes, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Wakeland and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a darker surface layer
- Soils that have more sand in the underlying material
- Soils that have dark buried layers above a depth of 40 inches
- Soils that have a seasonal high water table at a depth of 2.0 to 3.5 feet

#### *Dissimilar soils:*

- The somewhat poorly drained Kendall soils in the higher positions
- The moderately well drained Blyton soils in the higher positions
- The poorly drained Birds soils in depressions

### ***Properties and Qualities of the Wakeland Soil***

*Parent material:* Silty alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Apparent seasonal high water table:* At a depth of 0.5 foot to 2.0 feet

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **W—Water**

- This map unit consists of rivers, streams, lakes, reservoirs, and ponds. These areas are covered with water in most years, at least during the period that is warm enough for the growth of plants. Many areas are covered throughout the year.

## ***Wilbur Series***

*Taxonomic classification:* Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts

### **Typical Pedon**

Wilbur silt loam, 0 to 2 percent slopes, occasionally flooded, at an elevation of about 445 feet: Monroe County, Illinois; approximately 1,200 feet west and 1,100 feet south of the northeast corner of sec. 9, T. 1 S., R. 10 W.; USGS Columbia, Illinois, topographic quadrangle; lat. 38 degrees 28 minutes 07 seconds N. and long. 90 degrees 12 minutes 15 seconds W.; UTM zone 15, 743909E 4261520N, NAD 83:

- Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.
- Bw1—7 to 15 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few medium rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.
- Bw2—15 to 22 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine roots; few fine faint grayish brown (10YR 5/2) iron depletions; few fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine and medium rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; neutral; clear smooth boundary.
- Bw3—22 to 41 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; few very fine roots; common fine faint grayish brown (10YR 5/2) iron depletions; common fine irregular prominent strong brown (7.5YR 5/6) masses of iron accumulation and few fine rounded distinct black (7.5YR 2.5/1) manganese nodules with clear strong brown (7.5YR 5/6) boundaries; few thin light yellowish brown (10YR 6/4) strata; neutral; clear smooth boundary.
- Cg—41 to 65 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; few very fine roots; few fine distinct dark yellowish brown (10YR 3/4) masses of iron and manganese accumulation in the matrix; common fine irregular distinct black (7.5YR 2.5/1) masses of manganese accumulation and brown (7.5YR 4/4) masses of iron and manganese accumulation; neutral; clear smooth boundary.
- 2Ab—65 to 80 inches; very dark gray (2.5Y 3/1) silty clay loam; moderate fine subangular blocky structure; firm; common fine irregular strong brown (7.5YR 4/6) masses of iron and manganese accumulation and common fine and medium rounded black (7.5YR 2.5/1) manganese nodules with diffuse strong brown (7.5YR 5/6) boundaries; slightly acid.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* 24 to 42 inches

*Other features:* Some pedons do not have a buried soil below a depth of 60 inches.

*Ap or A horizon(s):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam

*Bw horizon(s):*

Hue—10YR

Value—4 to 6

Chroma—3 to 6  
Texture—silt loam

*C or Cg horizon(s):*

Hue—10YR  
Value—4 to 6  
Chroma—2 to 6  
Texture—silt loam or loam; some pedons are stratified

### **3336A—Wilbur silt loam, 0 to 2 percent slopes, frequently flooded**

#### ***Setting***

*Landform:* Flood plains

#### ***Map Unit Composition***

Wilbur and similar soils: 90 percent  
Dissimilar soils: 10 percent

#### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand throughout the surface layer and subsoil
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Geff soils in the higher positions
- The poorly drained Birds soils in depressions

#### ***Properties and Qualities of the Wilbur Soil***

*Parent material:* Silty alluvium

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Apparent seasonal high water table:* At a depth of 1.5 to 2.0 feet

*Frequency and most likely period of flooding:* Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **Winfield Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

### **Typical Pedon**

Winfield silt loam, 2 to 5 percent slopes, at an elevation of 810 feet; Pike County, Illinois; 3,300 feet west and 330 feet north of the southeast corner of sec. 15, T. 5 S., R. 4 W.; USGS Pittsfield, Illinois, topographic quadrangle; lat. 39 degrees 37 minutes 17 seconds N. and long. 90 degrees 50 minutes 56 seconds W.; UTM zone 15, 684625E 4387952N, NAD 83:

- Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine and medium subangular blocky structure; friable; common fine roots throughout; neutral; clear smooth boundary.
- BE—8 to 13 inches; brown (10YR 4/3) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots throughout; neutral; clear smooth boundary.
- Bt1—13 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots throughout; few distinct brown (10YR 4/3) clay films and common distinct light gray (10YR 7/2) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
- Bt2—21 to 33 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure; firm; few very fine roots throughout; few distinct brown (10YR 4/3) clay films on faces of peds; few fine prominent black (2.5Y 2/1) masses of manganese accumulation and few fine faint brown (10YR 5/3) masses of iron and manganese accumulation throughout; strongly acid; gradual smooth boundary.
- Bt3—33 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few very fine roots throughout; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2/1) manganese concretions and common medium faint brown (10YR 5/3) masses of iron and manganese accumulation throughout; strongly acid; gradual smooth boundary.
- Bt4—44 to 55 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; very few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine prominent black (2.5Y 2/1) manganese concretions and common medium distinct light brownish gray (2.5Y 6/2) iron depletions throughout; moderately acid; gradual smooth boundary.
- C—55 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few fine prominent black (2.5Y 2/1) manganese concretions and few medium distinct light brownish gray (2.5Y 6/2) iron depletions throughout; moderately acid.

### **Range in Characteristics**

*Depth to the base of the diagnostic horizon:* 25 to 65 inches

*Ap or A horizon(s):*

- Hue—10YR
- Value—3 to 5
- Chroma—2 or 3
- Texture—silt loam or silty clay loam

*E horizon(s) (where present):*

- Hue—10YR
- Value—4 to 6
- Chroma—2 to 4
- Texture—silt loam or silty clay loam

*Bt or Btg horizon(s):*

Hue—10YR, 7.5YR, or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—silt loam or silty clay loam

*C or Cg horizon(s):*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silt loam

**477B—Winfield silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Summits and shoulders

***Map Unit Composition***

Winfield and similar soils: 100 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thinner surface layer
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have a darker surface layer
- Soils that have a seasonal high water table at a depth of less than 2 feet

***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **477B3—Winfield silty clay loam, 2 to 5 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Shoulders

### ***Map Unit Composition***

Winfield and similar soils: 100 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have a seasonal high water table at a depth of less than 2 feet

### ***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **477C2—Winfield silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Winfield and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### ***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **477C3—Winfield silty clay loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Winfield and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### ***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.0 percent

*Shrink-swell potential:* Moderate

*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **477D2—Winfield silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines; loess hills

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Winfield and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have more clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil
- Soils that have less clay in the subsoil

*Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

### ***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.1 to 2.0 percent

*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

#### ***Interpretive Groups***

*Land capability classification:* 3e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

### **477D3—Winfield silty clay loam, 10 to 18 percent slopes, severely eroded**

#### ***Setting***

*Landform:* Loess hills; ground moraines  
*Position on the landform:* Shoulders and backslopes

#### ***Map Unit Composition***

Winfield and similar soils: 90 percent  
 Dissimilar soils: 10 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have more sand in the lower part of the subsoil
- Soils that have less clay in the surface layer
- Soils that have more sand and clay in the lower part of the subsoil
- Soils that have less clay in the subsoil

##### *Dissimilar soils:*

- The well drained Hickory soils on the lower backslopes

#### ***Properties and Qualities of the Winfield Soil***

*Parent material:* Loess  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.6 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.2 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Apparent seasonal high water table:* At a depth of 2.0 to 3.5 feet  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium

*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* 4e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Worthen Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

### **Typical Pedon**

Worthen silt loam, 2 to 5 percent slopes, rarely flooded, at an elevation of 465 feet; Scott County, Illinois; 160 feet south and 640 feet west of the northeast corner of sec. 26, T. 13 N., R. 13 W.; USGS Bedford, Illinois, topographic quadrangle; lat. 39 degrees 32 minutes 59 seconds N. and long. 90 degrees 30 minutes 28 seconds W.; UTM zone 15, 714128E 4380754N, NAD 83:

- Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.
- A—9 to 20 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak medium granular structure; friable; few very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- AB—20 to 29 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; few very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bw1—29 to 41 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds, few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores, and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; neutral; clear smooth boundary.
- Bw2—41 to 64 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; few distinct dark brown (10YR 3/3) organic coatings in root channels and pores and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; neutral; gradual smooth boundary.
- C—64 to 80 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; neutral.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 24 to 36 inches  
*Depth to carbonates (if they occur):* More than 50 inches  
*Depth to the base of the diagnostic horizon:* 30 to 80 inches

*Ap, A, or AB horizon(s):*

Hue—10YR  
 Value—2 or 3  
 Chroma—1 to 3  
 Texture—silt loam

*Bw horizon(s):*

Hue—10YR or 7.5YR

Value—3 to 5  
 Chroma—2 to 6  
 Texture—silt loam

*C horizon(s):*

Hue—10YR or 7.5YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—silt loam

**7037B—Worthen silt loam, 2 to 5 percent slopes, rarely flooded**

***Setting***

*Landform:* Alluvial fans (fig. 7)

***Map Unit Composition***

Worthen and similar soils: 95 percent  
 Dissimilar soils: 5 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thinner dark surface soil
- Soils that have more sand in the lower part of the subsoil
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a lighter colored surface soil
- Soils that have slopes of more than 5 percent
- Soils that have slopes of less than 2 percent

*Dissimilar soils:*

- The somewhat poorly drained Littleton and Wakeland soils in the lower positions
- The moderately well drained Blyton soils in the lower positions

***Properties and Qualities of the Worthen Soil***

*Parent material:* Silty valley-side alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 13.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Seasonal high water table:* At a depth of more than 6 feet

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric



# Use and Management of the Soils

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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 forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as 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.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## **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, 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 "Soil Series and Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 2002, a total of 138,237 acres in Jersey County was cropland (USDA, 2002). The major row crops are corn and soybeans. Wheat is the major small grain crop grown. The soils in Jersey County have good potential for continued crop production, especially if the latest crop production technology is applied.

## **Limitations Affecting Cropland and Pastureland**

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

### **Cropland**

The main concerns affecting the management of cropland in Jersey County include crusting, flooding, ponding, poor tilth, water erosion, and wetness. Other concerns include excess lime, excessive permeability, excess sodium, high pH, and limited available water capacity.

Crusting occurs when flowing water or raindrops break down soil structural units, moving clay downward and leaving a concentration of sand and silt particles on the soil surface. Crusts can reduce water infiltration, increase runoff, inhibit seedling emergence and proper growth, and reduce oxygen diffusion to seedlings. Practices that help to minimize surface crusting and improve tilth are those that protect the surface from the impact of raindrops and from flowing water. Incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage help to prevent crusting and improve tilth.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Levees or diversions reduce the extent of crop damage caused by floodwater. Surface drainage ditches can be used to improve drainage if suitable outlets are available. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning. Selecting crop varieties adapted to a shorter growing season and wetter conditions can help to minimize the extent of damage caused by flooding.

Ponding occurs when the seasonal high water table is above the surface of the soil. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with wetland regulations may require special permits and extra planning.

Poor tilth can be caused by erosion or excessive tillage. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because such soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. If the timing is not right, the resultant clods make it

difficult for good seed-to-soil contact. Poor tilth inhibits seedling germination and emergence, increases runoff and erosion, and reduces the rate of water infiltration. Soils with good tilth are granular and porous and have a high content of organic matter in the surface layer. Soils with poor tilth generally have more clay, a lower content of organic matter, and weaker soil structure in the surface layer. Returning crop residue to the soil and regularly adding other organic material, minimizing tillage, and using a system of conservation tillage can improve tilth. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet or by using no-till farming methods.

Water erosion reduces the stability of soil aggregates and thus reduces the rate of water infiltration and increases the rate of surface runoff. Soils with long or steep slopes are susceptible to water erosion. Sheet and rill erosion is a hazard in areas where slopes are long or are subject to concentrated flow. Excessive runoff reduces the quality of surface water through sedimentation and contamination by agricultural chemicals attached to soil particles in the sediment. Sediment then enters streams, rivers, water impoundments, and road ditches and reduces the quality of surface water. Erosion can be controlled by a conservation tillage system that leaves crop residue on the surface after planting or by a cropping system that rotates grasses and legumes in the cropping sequence (fig. 9). On soils with long, uniform slopes, contour farming and/or terraces in combination with a conservation tillage system can help to control erosion.

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. In soils that have restricted permeability and a high content of clay, subsurface drainage may not be practical. In areas of these soils, surface ditches may reduce the wetness. Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Excess lime occurs in soils that contain a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases.



**Figure 9.—**This field of no-till soybeans in an area of Rozetta soils is part of a conservation tillage system, which helps to control erosion.

Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Excessive permeability can occur in soils that have a high content of sand in the surface layer and thus have many pores of large diameter. The capacity of the soil to retain moisture for use by plants is restricted. Deep leaching of nutrients and pesticides can occur, and the risk of ground-water pollution is a concern. Irrigation can be used to supply the moisture needed for crops. Frequent applications of a small amount of fertilizer are needed. One large application of fertilizer can result in excessive loss of plant nutrients through leaching.

Excess sodium occurs in soils that contain a high content of sodium in the subsoil. Excess sodium flocculates the soil structure. The high sodium concentration and poor physical makeup of these soils hinder the penetration of plant roots and limit the availability of water, thus causing moisture stress late in the growing season. These soils also have excess moisture during wet periods. The condition of these soils also limits the availability and uptake of some plant nutrients. These soils tend to have low porosity and a low infiltration rate. Applying a system of conservation tillage that leaves crop residue on the surface after planting and regularly adding other organic material improve fertility and increase the rate of water infiltration.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many plant nutrients and influences the effectiveness of herbicides. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Crops may respond well to additions of phosphate fertilizer on these soils. The applications of herbicides should be adjusted as the level of alkalinity increases. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems also help to overcome this limitation.

Limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Following are explanations of the criteria used to determine the limitations or hazards.

*Crusting.*—The average content of organic matter in the surface layer is 2.5 percent or less, and the content of clay is between 20 and 35 percent.

*Excess lime.*—The upper limit of the calcium carbonate equivalent is 15 percent or more within a depth of 20 inches.

*Excess sodium.*—The sodium adsorption ratio is more than 12 within a depth of 30 inches.

*Excessive permeability.*—The lower limit of the permeability rate is more than 6.0 inches per hour within the soil profile.

*Flooding.*—The soil is subject to occasional or frequent flooding.

*High pH.*—The lower limit of pH within a depth of 40 inches is 7.4 or more.

*Limited available water capacity.*—The available water capacity in the upper 60 inches of the profile is less than 6 inches.

*Ponding.*—The upper limit of the ponding depth is greater than 0 inches.

*Poor tilth.*—The content of clay in the surface layer is 27 percent or more.

*Water erosion.*—The  $K_w$  factor multiplied by the slope is 0.8 or more, and the slope is 3 percent or more.

*Wetness.*—The seasonal high water table is within a depth of 1.5 feet at some time during the growing season in normal years.

Erosion factors (for example, the Kw factor) are described under the heading "Physical Properties."

### **Pastureland**

The main management concerns affecting pastureland in Jersey County are equipment limitations, low fertility, low pH, poor tilth, water erosion, and wetness. Other concerns include excess lime, excessive permeability, flooding, frost heave, high pH, limited available water capacity, and ponding.

Equipment limitations occur in areas that have slopes of more than 18 percent. These limitations can cause rapid wear of equipment. They can also present problems with fertilization, harvest, pasture renovation, and seedbed preparation. They cannot be easily overcome.

Low fertility occurs in soils that have a low content of organic matter and a low cation-exchange capacity. The capacity of the soil to retain nutrients for plant use is limited. Frequent applications of small amounts of fertilizer help to prevent excessive loss of plant nutrients through leaching. Using legumes as part of a seeding mixture can provide nitrogen to the grass varieties. Timely deferment of grazing helps to maintain a cover of vegetation on the surface and thus helps to maintain the content of organic matter. Organic matter is a source of nutrients in the soil.

Low pH refers to a pH of 5.5 or less. This limitation can reduce the solubility and availability of nutrients for plant growth. Selecting adapted forage and hay varieties and applying lime according to the results of soil tests can help to overcome this limitation.

Poor tilth can occur in soils because of erosion, when part of the subsoil is incorporated into the plow layer. The erosion reduces the content of organic matter and increases the clay content in the surface soil. Intensive rainfall often results in the formation of a crust on the surface. Poor tilth also occurs in poorly drained soils that have a high clay content, regardless of organic matter content, and in soils that have been excessively tilled. Poor tilth reduces the rate of water infiltration and increases the runoff rate and the susceptibility to erosion on the more sloping soils. Soils with poor tilth generally have a surface layer that is sticky when wet and hard and cloddy when dry. Because these soils can be tilled only within a narrow range in moisture content, seedbed preparation is difficult. Minimizing tillage and timing conservation tillage operations to near optimal soil moisture conditions during pasture establishment or pasture renovation can improve tilth.

Water erosion can occur in overgrazed areas or during pasture establishment and renovation if the surface is not protected against the impact of raindrops. Erosion results in poor tilth, which reduces the rate of water infiltration and increases the runoff rate. Soils with long or steep slopes also are susceptible to water erosion. Erosion can be controlled by deferring grazing, which prevents overgrazing and thus also helps to prevent surface compaction and excessive runoff and erosion. Tilling on the contour, using a no-till system of seeding when a seedbed is prepared or the pasture is renovated, and selecting adapted forage and hay varieties also help to control erosion (fig. 10).

Wetness occurs when the seasonal high water table is at or near the surface. Subsurface tile drains can lower the seasonal high water table if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Excess lime occurs in soils that contain a high content of calcium carbonate at or near the surface or in the upper part of the subsoil. This limitation affects the availability of many plant nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.



**Figure 10.—Maintaining a cover of forage crops helps to control erosion. Pictured is an area of Greenbush soils.**

Excessive permeability can occur in soils that have a high content of sand and thus have many large pores. The capacity of these soils to retain moisture for plant use is limited. The deep leaching of nutrients and pesticides that can result can increase the risk of ground-water pollution. Irrigation can be used to supply the moisture needed for plant growth. Frequent applications of a small amount of fertilizer are needed. A single large application of fertilizer can result in excessive loss of plant nutrients through leaching.

Flooding occurs in unprotected areas along the major rivers and their tributaries. Surface drainage ditches help to remove floodwater if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to a shorter growing season and wetter conditions can also minimize the damage caused by flooding. Restricted use during wet periods helps to keep the pasture in good condition.

Frost heave occurs when ice lenses or bands develop in the soil and drive an ice wedge between two layers of soil near the surface layer. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils that have textures low in sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties helps to minimize the effects of frost heave. Timely deferment of grazing helps to maintain a cover of vegetation on the surface, which helps to insulate the soil and thus reduces the effects of frost heave.

High pH refers to a pH of 7.4 or more. This limitation affects the availability of many nutrients for plant growth. More frequent applications of a small amount of fertilizer are needed to correct nutrient imbalances. Selecting adapted forage and hay varieties helps to overcome this limitation.

A limited available water capacity can occur in soils that have a high content of sand, a low content of clay, and a low content of organic matter. Reducing the evaporation and runoff rates and increasing the rate of water infiltration can conserve soil moisture. Measures that conserve soil moisture include applying conservation tillage and conservation cropping systems, establishing field windbreaks, and leaving crop residue on the surface.

Ponding occurs when the seasonal high water table is above the surface. Land grading helps to control ponding. Surface ditches and surface inlet tile also help to remove excess water if suitable outlets are available. Management of drainage in conformance with regulations may require special permits and extra planning. Selecting forage and hay varieties adapted to wet conditions can improve forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Following are explanations of the criteria used to determine the limitations or hazards.

*Equipment limitation.*—The slope is more than 18 percent.

*Excess lime.*—The upper limit of the calcium carbonate equivalent is 15 percent or more within a depth of 20 inches.

*Excessive permeability.*—The lower limit of the permeability rate is more than 6.0 inches per hour within the soil profile.

*Flooding.*—The soil is subject to occasional or frequent flooding.

*Frost heave.*—The potential for frost action is moderate or high, and the drainage class is poorly drained or very poorly drained.

*High pH.*—The lower limit of pH within a depth of 40 inches is 7.4 or more.

*Limited available water capacity.*—The available water capacity is less than 6 inches in the upper 60 inches of the profile.

*Low fertility.*—The average content of organic matter in the surface layer is less than 1 percent, or the average cation-exchange capacity (CEC) is less than 7.

*Low pH.*—The lower limit of pH within a depth of 40 inches is 5.5 or less.

*Ponding.*—The upper limit of the ponding depth is greater than 0 inches.

*Poor tilth.*—The content of clay in the surface layer is 27 percent or more.

*Water erosion.*—The Kw factor multiplied by the slope is more than 1.0, and the slope is 3 percent or more.

*Wetness.*—The seasonal high water table is within a depth of 1.5 feet.

Erosion factors (for example, the Kw factor) are described under the heading “Physical Properties.”

## **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 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents (Olson and Lang, 2000; Olson and others, 2000). Available yield data from nearby counties and results of field trials and demonstrations also are 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.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table 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 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 forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s*

shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

*Capability units* are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section "Soil Series and Detailed Soil Map Units" and in the yields table.

## 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, forestland, 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. 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 121,456 acres in the survey area, or about 50 percent of the total acreage, meets the soil requirements for prime farmland.

A recent trend in land use in some parts of Illinois 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 8. 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 5. The location is shown on the detailed soil maps. Some of the soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

## Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as inclusions. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folistels.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels

great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:

- A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
- B. are poorly drained or very poorly drained and have either:
  - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
  - 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
  - 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
- 3. Soils that are frequently ponded for long or very long duration during the growing season.
- 4. Soils that are frequently flooded for long or very long duration during the growing season.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service or from a commercial nursery.

## Forestland Management and Productivity

Jacquie L. Simon, District Conservationist, Natural Resources Conservation Service, and Jeff Blackorby, Resource Conservationist, Jersey County Soil and Water Conservation District, helped prepare this section.

When the survey area was first settled, forestland covered approximately 142,400 acres, or about 59 percent of the total acreage (Bretthauer and Edgington, 2002). The uplands were covered by forests of mixed oaks, hickory, hard maple, and other hardwoods. Excellent stands of cottonwood, sycamore, silver maple, green ash, and other hardwoods grew on the bottom land.

Today, forestland makes up about 67,200 acres, or about 28 percent of the county (Illinois Department of Natural Resources, 1996). Most of this woodland is unimproved land in the western and southern parts of the county. The woodland acres provide excellent habitat for upland and bottom-land wildlife.

Pere Marquette State Park, in the southwest corner of the county, consists of 8,055 acres, most of which is forested (Illinois Department of Natural Resources, 2003). This area represents about 12 percent of the woodland in the county. Landowners are more aware than ever of the importance of a healthy woodland stand. Many of the woodland acres in the county are still subject to grazing, which destroys the leaf layer on the surface, compacts the soils, and eliminates or damages tree seedlings. State and Federal cost-share programs have been established to encourage tree planting by landowners. These types of programs improve water quality, enhance wildlife habitat, and reduce streambank erosion.

Typical bottom-land tree species in Jersey County are cottonwood, sycamore, and silver maple. These trees are common in areas of Wakeland, Lawson, Beaucoup, and Quiver soils. Typical upland species are red oak, white oak, black oak, sugar maple, white ash, and hickory. Soils that support these upland species include Menfro, Fayette, Hickory, Sylvan, and Bold soils.

Overall, the survey area was a mixture of forest and prairie; approximately two-thirds of the area was forested, and the remaining one-third was prairie. Jersey County currently ranks 11th among counties in Illinois in percent of land covered by forest/woodlands and 15th in total acreage of forest/woodland (Illinois Department of Natural Resources, 1996).

According to the Natural Resources Conservation Service, these woodlands are home to many threatened and endangered species. The bald eagle, Mississippi kite, timber rattlesnake, and large ground plum are in areas near the Illinois River. The river otter is in areas of riparian habitat with extensive woodlands, good water quality, and suitable den sites. The Berwick's wren inhabits thickets, brushy areas, and riparian areas. The Indiana bat winters in caves and mines, but the summer habitat of the bat includes a variety of wooded and riparian settings.

In table 11, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Suggested trees to plant* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

In tables 12a through 12e, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified

practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for seedling mortality are expressed as *low*, *moderate*, and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

#### **Table 12a**

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

#### **Table 12b**

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erosion factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is

expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

#### **Table 12c**

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

#### **Table 12d**

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

#### **Table 12e**

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

## **Recreational Development**

Jeff Blackorby, Resource Conservationist, Jersey County Soil and Water Conservation District, helped prepare this section.

The demand for land and facilities for boating, swimming, picnicking, fishing, hunting, hiking, camping, and other forms of outdoor recreation is increasing throughout the county. Facilities for these activities are available in city and State parks, on county conservation district lands, and on a few privately owned tracts.

The potential for further recreational development is good throughout the county. More than 2,200 acres of manmade lakes, about 172 miles of streams, and the adjacent Illinois and Mississippi Rivers provide excellent opportunities for recreational activities (Illinois Department of Natural Resources, 2000). The soils having the best potential are on uplands along the Illinois and Mississippi Rivers and their major tributaries.

Pere Marquette State Park, located 5 miles west of Grafton, is famous for the beauty of its fall colors and is a home for bald eagles. In addition to the spectacular

views of the Illinois and Mississippi Rivers from several scenic outlooks, visitors can take advantage of a variety of year-round recreational activities, including hiking, biking, horseback riding, camping, fishing, boating, and interpretive programs.

The Illinois Department of Natural Resources also provides opportunities for duck hunters by providing blinds for hunting in several areas along the Illinois River. Deer hunting is also a growing sport, particularly in the southwestern part of the county. Many independent landowners lease their land to individuals for deer hunting. The large watershed areas along Piasa, Otter, and Macoupin Creeks provide excellent shelter areas for wildlife and are a hunter's paradise. Pheasant hunting is a new trend that is becoming popular in the county. Although these birds are not native to the area, the sporting clubs raise them in captivity and offer a release and hunt program.

The confluence of the Mississippi and Illinois Rivers is just south of Grafton, Illinois. These large waterways attract many boaters and tourists to the area. Grafton features wineries, restaurants, a large water park, a miniature golf course, hotels, and numerous quaint shops. The Great River Road from Alton, Illinois, to Pere Marquette State Park is a scenic drive for motorists, and a bike path along the Great River Road provides bicyclists and walkers another opportunity to enjoy the beauty of the area.

Jerseyville also has a wide array of recreational activities. Two golfing facilities are located in Jerseyville; one is open to the public, and the other is a private country club. The newly developed health club and wellness center is growing in popularity and is used by residents of Jersey and Calhoun Counties. The city-owned Susnig Center is used for indoor sports, such as basketball and volleyball. Dolan Park in Jerseyville has facilities for softball and other sports, a swimming pool, and picnic areas.

In tables 13a and 13b, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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

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

*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 ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for tees, roughs, and greens is not considered in the ratings.

## Wildlife Habitat

Jon Handel, District Wildlife Biologist, Illinois Department of Conservation, helped prepare this section.

The topography of Jersey County ranges from rugged woodland in the west along the river bluffs to flat and open areas in the prairie in the east. There is a relative abundance of forested acreage in the western and southern parts of the county, where native plant species continue to thrive. The value of the mainly small fields of row crops to wildlife in this area is enhanced by their close association with woodland and pastureland. In the eastern part of the county, the association of crop fields to smaller woodlots and creeks also is important. This interspersed food and cover types (plant diversity) contributes to the abundance of wildlife that thrives in the region. The major species of wildlife in the survey area include rabbits, squirrels, deer, turkeys, raccoons, quail, red fox, coyotes, and migratory waterfowl. The Illinois River provides good opportunities for sport and commercial fishing. Common game fish include bass, bluegill, catfish, and crappie. Carp, buffalo, drum, and suckers are common commercial species. Wetlands adjacent to the river provide resting and feeding areas for migratory ducks and geese in the spring and fall.

Farm economics and USDA programs are the driving force behind rural land use in Illinois. The amount of active production farmland and the livestock industry put limitations on available wildlife habitat and, ultimately, wildlife populations. Declining human populations, changes in land ownership, and the marginal productivity of some soils have led to less intensive agricultural use in some areas during recent years. This trend is partially responsible for the increasing numbers of high-profile wildlife, such as white-tailed deer and turkey. Without question, populations of many other species have also increased.

Most people recognize the intrinsic value of wildlife. Hunting, bird watching, and other activities provide endless hours of recreational opportunities. Not only are people buying land for recreational purposes, but many landowners have sold hunting rights.

Good management can improve the habitat for wildlife. Keeping crop residue on the surface during fall and winter not only helps to control erosion but also greatly improves wildlife habitat in cropped areas. Deferring the mowing of grassed waterways, roadsides, and fence rows until early August, after the nesting season, can significantly increase the annual production of songbirds, quail, rabbits, and other kinds of wildlife that nest on the ground. Measures that exclude livestock from woodland, wetland, and streambanks can markedly improve 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 14, 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. Examples are corn, soybeans, wheat, and oats. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Selection should be made from a list of locally adapted species.

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

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

*Hardwood trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Examples are oak, cherry, cottonwood, apple, hawthorn, hickory, blackberry, elderberry, maple, and willow. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are American plum, hazelnut, dogwood, and arrowwood. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness.

*Coniferous plants* are cone-bearing trees, shrubs, or ground cover that provides habitat or supplies food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, juniper, and fir. 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.

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

*Shallow water areas* have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, 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 ring-necked pheasant, bobwhite quail, meadowlark, field sparrow, cottontail rabbit, and red fox.

*Habitat for woodland wildlife* consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, owls, tree squirrels, raccoon, woodcock, and white-tailed deer.

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

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. 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 data in the tables described under the heading "Soil Properties."

*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 between the surface and a depth of 5 to 7 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 particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, 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, reclamation material, roadfill, and topsoil; plan structures for water management; 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

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 15a and 15b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*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 soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and

grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

Tables 16a and 16b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*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 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may

not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid 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. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include

flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*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. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials

Table 17 gives information about the soils as potential sources of roadfill and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated as *good, fair, or poor* sources of roadfill and topsoil. The features that limit the soils as sources of roadfill and topsoil are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of roadfill and topsoil. The lower the number, the greater the limitation.

*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 whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a 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 AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*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. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading

the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

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

Tables 18a and 18b give 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; aquifer-fed excavated ponds; grassed waterways; terraces and diversions; and drainage. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

### Table 18a

*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. Embankments that have zoned construction (core and shell) are not considered. 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, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

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

**Table 18b**

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

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

*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; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. In the table, the degree and kind of soil limitations are given for only those soils that have a seasonal high water table within a depth of 3 feet. Availability of drainage outlets is not considered in the ratings.



# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey.

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

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

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Index Properties

Table 19 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter (fig. 11). "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 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-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 particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group

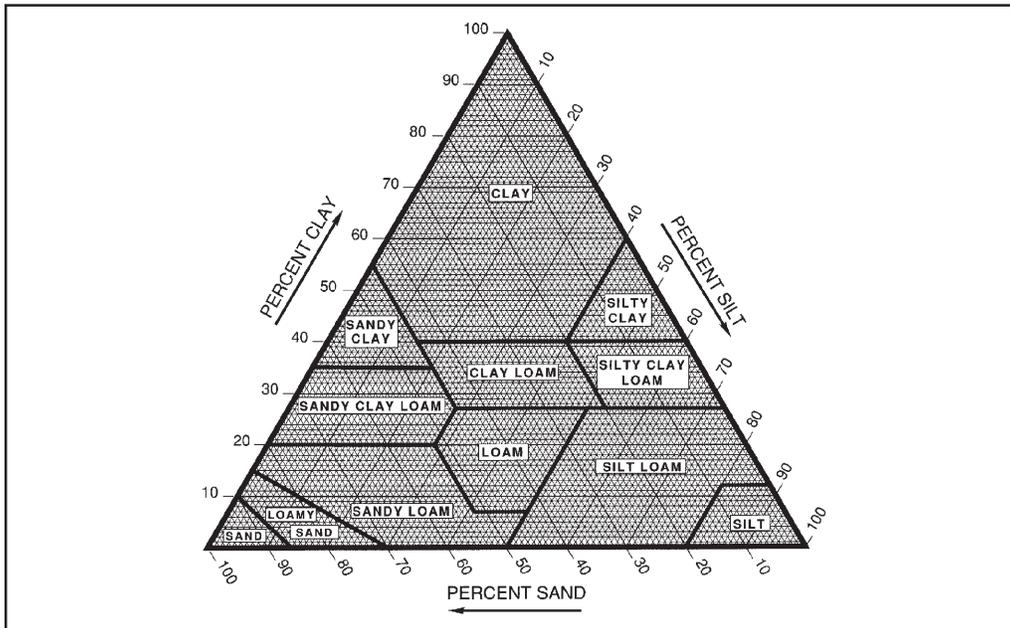


Figure 11.—Percentages of clay, silt, and sand in the basic USDA soil textural classes.

index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*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 oven-dry 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 particle-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 generally omitted in the table.

## Physical Properties

Table 20 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as

classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and 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 (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each 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. Depending on soil texture, a bulk density of more than 1.4 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 (Ksat)* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, 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 soil layer. The capacity varies, depending on soil properties that affect retention of water. 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 20, 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.

*Erosion factors* are shown in table 20 as the K factor ( $K_w$  and  $K_f$ ) 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  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook" (available online at <http://soils.usda.gov>).

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 21 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. 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.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Sodium adsorption ratio* (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

## Water Features

Table 22 gives estimates of various 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.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

*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 22 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* of flooding 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). *Common* is used when the occasional and frequent classes are grouped for certain purposes.

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.

*Water table* refers to a saturated zone in the soil. Table 22 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

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

## Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

*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.



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# Glossary

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Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

**ABC soil.** A soil having an A, a B, and a C horizon.

**Ablation till.** Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

**AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**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.

**Alluvial fan.** A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes. It is shaped like an open fan or a segment of a cone. The material was deposited by a stream at the place where it issues from a narrow mountain valley or upland valley or where a tributary stream is near or at its junction with the main stream. The fan is steepest near its apex, which points upstream, and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

**Alluvium.** Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

**Alpha,alpha-dipyridyl.** A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction toward which a slope faces. Also called slope aspect.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate .....	6 to 9
High .....	9 to 12
Very high .....	more than 12

- Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.
- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Basal till.** Compact till deposited beneath the ice.
- 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.
- Base slope (geomorphology).** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Batavia facies (geology).** An informal separation of the Henry Formation. The Batavia facies occurs on outwash plains and consists of stratified silt loam to gravelly sandy loam with thin bands of finer or coarser material.
- Bedding plane.** A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A saucer-, cup-, or trough-shaped depression formed by wind erosion on a preexisting dune or other sand deposit, especially in an area of shifting sand or loose soil or where protective vegetation is disturbed or destroyed; the adjoining accumulation of sand derived from the depression, where recognizable, is commonly included. Blowouts are commonly small.
- Bottom land.** An informal term loosely applied to various portions of a flood plain.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

- Cahokia Formation (geology).** Deposits in flood plains and channels in modern rivers and streams. Mostly poorly sorted sand, silt, or clay containing local deposits of sandy gravel.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Calcium carbonate.** A common mineral in sediments and soils.
- 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.
- Carmi facies (geology).** Largely quiet-water lake sediments dominated by well bedded silt and some clay. See Equality Formation.
- Catena.** A sequence of soils across a landscape that are about the same age and formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** See Terracettes.
- Channery soil material.** Soil material that has, 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.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** See Redoximorphic features.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- 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 has 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.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.
- 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.** See Redoximorphic features.
- Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- 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.
- Coprogenous earth (sedimentary peat).** A type of limnic layer composed predominantly of fecal material derived from aquatic animals.
- Corrosion (geomorphology).** A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.
- Corrosion (soil survey interpretations).** 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.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment

continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

**Cutbanks cave** (in tables). The walls of excavations tend to cave in or slough.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Delta.** A body of alluvium having a surface that is fan shaped and nearly flat; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

**Dense layer** (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

**Depression.** Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage. An open depression has a natural outlet for surface drainage.

**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.

**Diamicton (geology).** A general term for a till-like mixture of unsorted, unstratified rock debris composed of a wide range of particle sizes; use of this term carries no suggestion about how such debris was formed or deposited.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

**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.

**Drainageway.** A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

**Drift.** A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.

**Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.

- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Dune.** A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.
- Earthy fill.** See Mine spoil.
- 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.
- End moraine.** A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.
- 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.
- Eolian deposit.** Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.
- Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.
- 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.
- Equality Formation (geology).** Consists of gray to red silt and clay; generally shows evidence of bedding structures and occurs above the Sangamon Geosol. Predominantly occurs as a fine grained lacustrine sediment. Ranges in age from 26,000 radiocarbon years to present.
- Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.  
*Erosion (geologic).* Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.  
*Erosion (accelerated).* Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.
- Erosion surface.** A land surface shaped by the action of erosion, especially by running water.
- 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. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.
- Esker.** A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.
- Flaggy soil material.** Material that has, 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.** The nearly level plain that borders a stream and is subject to flooding unless protected artificially.
- Flood-plain landforms.** A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.
- Flood-plain splay.** A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.
- Flood-plain step.** An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.
- Fluvial.** Of or pertaining to rivers or streams; produced by stream or river action.
- Footslope.** The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- 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.
- Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.
- 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.
- Geosol.** A buried soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site. The former pedogenic process was interrupted by burial. A

geosol is a laterally traceable, mappable, geologic weathering profile that has a consistent stratigraphic position. See Paleosol.

**Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.

**Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded or laminated.

**Glasford Formation (geology).** Encompasses all till members of Illinoian age in Illinois.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

**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 has 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 moraine.** An extensive, fairly even layer of till having an uneven or undulating surface.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. 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.

**Hard to reclaim (in tables).** Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Head slope (geomorphology).** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**Henry Formation (geology).** Consists of stratified sand and gravel that occur above the Sangamon Geosol.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A generic term for an elevated area 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. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.

**Hillslope.** A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.

**Holocene (geology).** Postglacial age or time period (interglacial). About 0 to 12,600 years before present. See Quaternary.

**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.

*L horizon.*—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

*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.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff 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.

**Igneous rock.** Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

**Illinoian (geology).** In Illinois, represents the glacial age of ice advance preceding the Sangamonian and Wisconsinan and following the Yarmouthian and pre-Illinoian during the Pleistocene. This glaciation covered practically the entire State of Illinois with the exception of small portions in northwestern, western, and southern Illinois. See Pleistocene.

**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 capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluve.** A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

**Interfluve (geomorphology).** A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

**Intermittent stream.** A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Iron depletions.** See Redoximorphic features.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

**Kame.** A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**Krotovinas.** Irregular, tubular streaks in a soil horizon that are created when tunnels made by a burrowing animal are filled with material from another horizon.

**Ksat.** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Lake plain.** A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

**Lake terrace.** A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

**Landscape.** A collection of related natural landforms; usually the land surface which the eye can comprehend in a single view.

**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.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. 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. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**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.** Material transported and deposited by wind and consisting dominantly of silt-sized particles.

**Low strength.** The soil is not strong enough to support loads.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Mackinaw facies (geology).** An informal separation of the Henry Formation. The Mackinaw facies consists of well sorted sand and gravel outwash deposits in valleys leading outward from glacier fronts. Preserved today as terraces beneath Holocene deposits in major stream and river valleys.

**Mason Group (geology).** The Mason Group comprises three proglacial and one postglacial sorted sediment formations that represent distinct stratigraphic layers based on grain size and bedding characteristics. The proglacial units are Roxana Silt, Peoria Silt, and the Henry Formation. The postglacial unit is the Equality Formation.

**Masses.** See Redoximorphic features.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

**Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

**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.** A kind of map unit that has little or no natural soil and supports little or no vegetation.

**MLRA (major land resource area).** A geographic area characterized by a particular pattern of land use, elevation and topography, soils, climate, water resources, and potential natural 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.

**Moraine.** In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

**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).

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**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.

**Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** See Redoximorphic features.

**Nose slope (geomorphology).** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**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

**Outwash.** Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

**Outwash plain.** An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Paleosol.** A general term used to describe a soil that formed on a landscape of the past; it may be a buried soil, a relict soil, or an exhumed soil. See Geosol.

**Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**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.

**Parkland facies (geology).** An informal separation of the Henry Formation where it occurs as dunes in outwash areas; an informal separation of Peoria Silt where it occurs interfingered with silt in bluff areas. It consists of well sorted eolian sand deposits in the form of dunes or sheetlike deposits.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment (regional geology).** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

**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.

**Peoria Silt (geology).** Light yellow tan to gray, calcareous silt that grades from a sandy silt in the bluffs to a clayey silt away from the bluffs. Also known as Peoria Loess. Covers most of Illinois and ranges in thickness from 80 feet in bluff areas along the Mississippi River to 1 or 2 feet in areas away from the bluffs. Deposition occurred 25,000 to 12,500 radiocarbon years ago.

**Percolation.** The movement of water through the soil.

**Percs slowly** (in tables). The slow movement of water through the soil adversely affects the specified use.

**Permafrost.** Ground, soil, or rock that remains at or below 0 degrees C for at least 2 years. It is defined on the basis of temperature and is not necessarily frozen.

**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:

Impermeable .....	less than 0.0015 inch
Very slow .....	0.0015 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

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Pleistocene (geology).** The period in a geologic time series that encompasses all glacial and interglacial stages. Includes the Wisconsinan, Sangamonian, Illinoian, Yarmouthian, and pre-Illinoian. The period covered is about 12,600 to 2 million years before present.

**Plinthite.** The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**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.

**Pore linings.** See Redoximorphic features.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**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.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Quaternary (geology).** The latest period of time in the stratigraphic column, about 0 to 2 million years before present, represented by local accumulations of glacial (Pleistocene) and postglacial (Holocene) deposits. An artificial division of time used to separate pre-human from post-human sedimentation.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed as 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.** See Redoximorphic features.

**Redoximorphic depletions.** See Redoximorphic features.

**Redoximorphic features.** Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
  - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
  - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
  - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:

- A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
  - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

**Reduced matrix.** See Redoximorphic features.

**Regolith.** All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

**Relief.** The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

**Rill.** A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

**Rise.** A slight increase in slope and elevation of the land surface, typically with a broad summit and gently sloping sides.

**Riser.** The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Roxana Silt (geology).** Brownish red and gray silt loam. Also known as Roxana Loess. Typically leached of carbonates. It overlies the Sangamon Geosol and is typically bounded above by Peoria Silts. It can be distinguished from Peoria Silts by being darker brown and more clayey. Deposition occurred 75,000 to 27,000 radiocarbon years ago.

**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.

**Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

**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.

**Sangamonian (geology).** In Illinois, represents an interglacial age between the Illinoian and Wisconsinan glacial stages during the Pleistocene. See Pleistocene; Geosol.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Saturated hydraulic conductivity (Ksat).** See Permeability.

- 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.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- Sedimentary rock.** A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.
- 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 that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.
- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.
- 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.
- Side slope** (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside, bounding a drainageway and lying between the drainageway and the adjacent interfluvium. The overland waterflow is predominantly parallel.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- 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.** An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over clay.
- 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.
- 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** (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.
- Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.
- Slope alluvium.** Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.
- Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on outwash, or on a glaciolacustrine deposit.
- Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.
- Sodium adsorption ratio (SAR).** A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.
- 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 and by the passage 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.
- Stone line.** In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.
- 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.
- Strath terrace.** A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).
- Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.
- 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.
- Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.
- Substratum.** The part of the soil below the solum.
- Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.
- Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
- Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
- Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”
- Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
- Swale.** A shallow, open depression in unconsolidated materials that lacks a defined channel but can funnel overland or subsurface flow into a drainageway. A small, shallow, typically closed depression in an undulating ground moraine formed by uneven glacial deposition.
- Talf.** A geomorphic component of flat plains consisting of an essentially flat and broad area dominated by closed depressions and a nonintegrated or poorly integrated drainage system. Precipitation tends to pond locally, and lateral transport is slow both above and below ground. These conditions favor the accumulation of soil organic matter and a retention of fine earth sediments; better drained soils are commonly adjacent to drainageways.
- 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 or higher taxonomic category of the series for which the soils are named.

- Terminal moraine.** An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.
- Terrace (conservation).** 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 (geomorphology).** A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.
- Terracettes.** Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.
- 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.
- Till.** Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.
- Till plain.** An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.
- Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- Tread.** The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.
- Tuff.** A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.
- Upland.** An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.
- Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
- Valley-side alluvium.** A concave “slope wash” deposit at the base of a hillslope that may or may not include the alluvial toeslope.

- Vandalia Till Member (geology).** The Vandalia Till Member of the Glasford Formation consists of clay loam diamicton. It is generally gray and calcareous, except where weathered. It is commonly 25 to 30 feet thick and is bounded at the top by the Sangamon Geosol.
- Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.
- Varve.** A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.
- Wasco facies (geology).** An informal separation of the Henry Formation. The Wasco facies consists of poorly sorted sand and gravel outwash deposits on kames, eskers, and deltas.
- Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.
- Weathering.** All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered material.
- Wedron Group (geology).** Mostly diamicton of the Wisconsinan Age.
- 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 oven-dry 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.
- Wisconsinan (geology).** In Illinois, represents the last glacial stage of ice advance during the Pleistocene. Follows the Sangamonian interglacial stage. See Pleistocene.
- Yarmouthian (geology).** In Illinois, represents an interglacial stage between the pre-Illinoian and Illinoian glacial stages during the Pleistocene. See Pleistocene.



# Tables

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Table 1.--Temperature and Precipitation  
(Recorded in the period 1971-2000 at Jerseyville, Illinois)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
°F	°F	°F	°F	°F	Units	In	In	In		In	
January----	35.6	17.4	26.5	66	-14	2	1.92	0.62	3.16	4	5.1
February---	41.6	22.3	32.0	73	-11	9	2.01	.99	2.90	4	3.6
March-----	52.9	32.4	42.6	82	6	58	3.51	2.12	4.92	6	2.9
April-----	64.5	42.3	53.4	86	23	177	4.14	2.07	5.87	7	.5
May-----	74.5	52.4	63.4	90	33	422	4.02	1.90	5.84	7	.0
June-----	83.2	61.4	72.3	96	44	666	3.72	2.06	5.18	6	.0
July-----	87.7	65.5	76.6	99	50	821	3.51	1.90	5.03	5	.0
August-----	86.0	62.7	74.4	99	47	755	2.91	1.16	4.61	4	.0
September--	79.0	54.3	66.6	95	33	502	3.23	1.36	4.92	5	.0
October----	67.7	42.9	55.3	87	23	218	2.84	1.65	3.88	5	.0
November---	52.7	33.4	43.0	78	11	54	3.78	1.65	5.66	6	1.2
December---	40.2	22.6	31.4	68	-8	7	2.82	1.24	4.09	5	3.6
Yearly:											
Average---	63.8	42.5	53.1	---	---	---	---	---	---	---	---
Extreme---	104	-25	---	100	-18	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,691	38.41	32.30	43.71	64	16.9

\* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall  
(Recorded in the period 1971-2000 at Jerseyville, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
<b>Last freezing temperature in spring:</b>			
1 year in 10 later than--	Apr. 10	Apr. 18	May 3
2 years in 10 later than--	Apr. 5	Apr. 13	Apr. 27
5 years in 10 later than--	Mar. 25	Apr. 4	Apr. 17
<b>First freezing temperature in fall:</b>			
1 year in 10 earlier than--	Oct. 15	Oct. 3	Sept. 25
2 years in 10 earlier than--	Oct. 23	Oct. 9	Sept. 29
5 years in 10 earlier than--	Nov. 6	Oct. 20	Oct. 8

Table 3.--Growing Season  
(Recorded in the period 1971-2000 at Jerseyville, Illinois)

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	199	177	156
8 years in 10	208	184	162
5 years in 10	226	198	173
2 years in 10	243	212	184
1 year in 10	253	220	190

Table 4.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Assumption---	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Atlas-----	Fine, smectitic, mesic Aeric Chromic Vertic Epiqualfs
Atterberry---	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Aviston-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Beaucoup-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
Biddle-----	Fine, smectitic, mesic Aquic Argiudolls
Blyton-----	Coarse-silty, mixed, superactive, nonacid, mesic Oxyaquic Udifluvents
Bold-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents
Booker-----	Very fine, smectitic, mesic Cumulic Vertic Endoaquolls
Bunkum-----	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Caseyville---	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Cowden-----	Fine, smectitic, mesic Mollic Albaqualfs
Darwin-----	Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls
Denny-----	Fine, smectitic, mesic Mollic Albaqualfs
Drury-----	Fine-silty, mixed, superactive, mesic Dystric Eutrudepts
Dupo-----	Coarse-silty over clayey, mixed over smectitic, superactive, nonacid, mesic Aquic Udifluvents
Elco-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Elsah-----	Loamy-skeletal, mixed, superactive, nonacid, mesic Typic Udifluvents
Emery-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Fayette-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Fosterburg---	Fine, smectitic, mesic Vertic Argiaquolls
Geff-----	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Goss-----	Clayey-skeletal, mixed, active, mesic Typic Paleudalfs
Greenbush----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Hamburg-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents
Harrison-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Herrick-----	Fine, smectitic, mesic Aquic Argiudolls
Hickory-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Homen-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Huntsville---	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
*Hurst-----	Very fine, smectitic, mesic Aeric Chromic Vertic Epiqualfs
Jules-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udifluvents
Kendall-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Keomah-----	Fine, smectitic, mesic Aeric Endoaqualfs
Lacrescent---	Loamy-skeletal, mixed, superactive, mesic Typic Hapludolls
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
*Littleton---	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
McFain-----	Clayey over loamy, smectitic over mixed, superactive, mesic Fluvaquentic Endoaquolls
Menfro-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Muscatune---	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Oconee-----	Fine, smectitic, mesic Udollic Endoaqualfs
Orthents-----	Fine-loamy, mixed, active, nonacid, mesic Typic Udorthents
Osc-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Osc-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Petrolia-----	Fine-silty, mixed, superactive, nonacid, mesic Fluvaquentic Endoaquepts
Piasa-----	Fine, smectitic, mesic Mollic Natraqualfs
Quiver-----	Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents
Radford-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Ridgway-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rozetta-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rushville----	Fine, smectitic, mesic Typic Albaqualfs
Sable-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Stronghurst--	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Sylvan-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Tice-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Virden-----	Fine, smectitic, mesic Vertic Argiaquolls
Wakeland-----	Coarse-silty, mixed, superactive, nonacid, mesic Aeric Fluvaquents
Wilbur-----	Coarse-silty, mixed, superactive, mesic Fluvaquentic Eutrudepts

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Winfield-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Worthen-----	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
8D2	Hickory loam, 10 to 18 percent slopes, eroded-----	1,117	0.5
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded-----	1,180	0.5
8F	Hickory silt loam, 18 to 35 percent slopes-----	5,062	2.1
8F2	Hickory loam, 18 to 35 percent slopes, eroded-----	3,877	1.6
8G	Hickory silt loam, 35 to 60 percent slopes-----	2,998	1.2
16A	Rushville silt loam, 0 to 2 percent slopes-----	1,723	0.7
17A	Keomah silt loam, 0 to 2 percent slopes-----	988	0.4
45A	Denny silt loam, 0 to 2 percent slopes-----	210	*
46A	Herrick silt loam, 0 to 2 percent slopes-----	10,004	4.1
47A	Viriden silt loam, 0 to 2 percent slopes-----	2,136	0.9
50A	Viriden silty clay loam, 0 to 2 percent slopes-----	170	*
51A	Muscataune silt loam, 0 to 2 percent slopes-----	7,532	3.1
61A	Atterberry silt loam, 0 to 2 percent slopes-----	3,067	1.3
68A	Sable silty clay loam, 0 to 2 percent slopes-----	2,725	1.1
75C	Drury silt loam, 5 to 10 percent slopes-----	623	0.3
79B	Menfro silt loam, 2 to 5 percent slopes-----	590	0.2
79C2	Menfro silt loam, 5 to 10 percent slopes, eroded-----	1,697	0.7
79D2	Menfro silt loam, 10 to 18 percent slopes, eroded-----	1,237	0.5
79D3	Menfro silty clay loam, 10 to 18 percent slopes, severely eroded-----	1,389	0.6
79E2	Menfro silt loam, 18 to 25 percent slopes, eroded-----	593	0.2
79F	Menfro silt loam, 18 to 35 percent slopes-----	1,134	0.5
86B	Osco silt loam, 2 to 5 percent slopes-----	4,366	1.8
86C2	Osco silt loam, 5 to 10 percent slopes, eroded-----	254	0.1
112A	Cowden silt loam, 0 to 2 percent slopes-----	722	0.3
113A	Oconee silt loam, 0 to 2 percent slopes-----	5,033	2.1
113B	Oconee silt loam, 2 to 5 percent slopes-----	36	*
119C2	Elco silt loam, 5 to 10 percent slopes, eroded-----	3,273	1.4
119C3	Elco silty clay loam, 5 to 10 percent slopes, severely eroded-----	1,874	0.8
119D2	Elco silt loam, 10 to 18 percent slopes, eroded-----	3,226	1.3
119D3	Elco silty clay loam, 10 to 18 percent slopes, severely eroded-----	9,979	4.1
127B	Harrison silt loam, 2 to 5 percent slopes-----	61	*
259C2	Assumption silt loam, 5 to 10 percent slopes, eroded-----	614	0.3
267A	Caseyville silt loam, 0 to 2 percent slopes-----	60	*
267B	Caseyville silt loam, 2 to 5 percent slopes-----	343	0.1
278A	Stronghurst silt loam, 0 to 2 percent slopes-----	1,483	0.6
279B	Rozetta silt loam, 2 to 5 percent slopes-----	14,307	5.9
279C2	Rozetta silt loam, 5 to 10 percent slopes, eroded-----	3,560	1.5
279C3	Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded-----	1,576	0.7
279D2	Rozetta silt loam, 10 to 18 percent slopes, eroded-----	263	0.1
279D3	Rozetta silty clay loam, 10 to 18 percent slopes, severely eroded-----	1,290	0.5
280B	Fayette silt loam, 2 to 5 percent slopes-----	2,007	0.8
280C	Fayette silt loam, 5 to 10 percent slopes-----	1,122	0.5
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded-----	5,512	2.3
280C3	Fayette silty clay loam, 5 to 10 percent slopes, severely eroded-----	477	0.2
280D	Fayette silt loam, 10 to 18 percent slopes-----	936	0.4
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded-----	3,017	1.2
280D3	Fayette silty clay loam, 10 to 18 percent slopes, severely eroded-----	2,431	1.0
280E2	Fayette silt loam, 18 to 25 percent slopes, eroded-----	1,206	0.5
280F	Fayette silt loam, 18 to 35 percent slopes-----	2,183	0.9
434B	Ridgway silt loam, 2 to 5 percent slopes-----	50	*
438B	Aviston silt loam, 2 to 5 percent slopes-----	3,918	1.6
477B	Winfield silt loam, 2 to 5 percent slopes-----	2,548	1.1
477B3	Winfield silty clay loam, 2 to 5 percent slopes, severely eroded-----	5	*
477C2	Winfield silt loam, 5 to 10 percent slopes, eroded-----	902	0.4
477C3	Winfield silty clay loam, 5 to 10 percent slopes, severely eroded-----	225	*
477D2	Winfield silt loam, 10 to 18 percent slopes, eroded-----	210	*
477D3	Winfield silty clay loam, 10 to 18 percent slopes, severely eroded-----	732	0.3
515B2	Bunkum silt loam, 2 to 5 percent slopes, eroded-----	1,679	0.7
515C2	Bunkum silt loam, 5 to 10 percent slopes, eroded-----	3,902	1.6
515C3	Bunkum silty clay loam, 5 to 10 percent slopes, severely eroded-----	2,297	0.9
538B2	Emery silt loam, 2 to 5 percent slopes, eroded-----	3,483	1.4
538C2	Emery silt loam, 5 to 10 percent slopes, eroded-----	1,897	0.8
582B	Homen silt loam, 2 to 5 percent slopes-----	14,300	5.9

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
675B	Greenbush silt loam, 2 to 5 percent slopes-----	4,298	1.8
675C2	Greenbush silt loam, 5 to 10 percent slopes, eroded-----	300	0.1
701F	Menfro-Hickory silt loams, 18 to 35 percent slopes-----	20	*
802E	Orthents, loamy, hilly-----	20	*
833F	Menfro-Goss complex, 18 to 35 percent slopes-----	526	0.2
833F2	Menfro-Goss complex, 18 to 35 percent slopes, eroded-----	324	0.1
833G	Goss-Menfro complex, 35 to 60 percent slopes-----	1,999	0.8
836G	Hamburg-Lacrescent complex, 35 to 60 percent slopes-----	856	0.4
837G	Rock outcrop, limestone-Lacrescent complex, 35 to 60 percent slopes-----	995	0.4
838F	Fayette-Goss complex, 18 to 35 percent slopes-----	11,508	4.8
838F2	Fayette-Goss complex, 18 to 35 percent slopes, eroded-----	944	0.4
838G	Goss-Fayette complex, 35 to 60 percent slopes-----	7,875	3.3
864	Pits, quarries-----	58	*
885A	Virden-Fosterburg silt loams, 0 to 2 percent slopes-----	573	0.2
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes-----	152	*
897C2	Bunkum-Atlas silt loams, 5 to 10 percent slopes, eroded-----	5	*
962D2	Sylvan-Bold silt loams, 10 to 18 percent slopes, eroded-----	913	0.4
962D3	Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded-----	217	*
962E2	Sylvan-Bold silt loams, 18 to 25 percent slopes, eroded-----	1,604	0.7
962F	Sylvan-Bold silt loams, 18 to 35 percent slopes-----	1,915	0.8
962G	Sylvan-Bold silt loams, 35 to 60 percent slopes-----	3,649	1.5
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes-----	450	0.2
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded-----	738	0.3
3070L	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration-----	300	0.1
3071L	Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration-----	2,030	0.8
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded-----	606	0.3
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded-----	603	0.2
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded-----	36	*
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded-----	158	*
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded-----	3,369	1.4
3336A	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded-----	304	0.1
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded-----	8,416	3.5
3475A	Elsah gravelly loam, 0 to 2 percent slopes, frequently flooded-----	3,057	1.3
3634A	Blyton silt loam, 0 to 2 percent slopes, frequently flooded-----	6,522	2.7
3641L	Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration-----	2,035	0.8
7037B	Worthen silt loam, 2 to 5 percent slopes, rarely flooded-----	1,055	0.4
7075B	Drury silt loam, 2 to 5 percent slopes, rarely flooded-----	754	0.3
7081A	Littleton silt loam, 0 to 2 percent slopes, rarely flooded-----	546	0.2
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded-----	215	*
7338B2	Hurst silty clay loam, 2 to 5 percent slopes, eroded, rarely flooded-----	98	*
7432A	Geff silt loam, 0 to 2 percent slopes, rarely flooded-----	25	*
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded-----	52	*
7457A	Booker clay, 0 to 2 percent slopes, rarely flooded-----	316	0.1
8028A	Jules silt loam, 0 to 2 percent slopes, occasionally flooded-----	1,009	0.4
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	2,012	0.8
8071A	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded-----	537	0.2
8180A	Dupo silt loam, 0 to 2 percent slopes, occasionally flooded-----	275	0.1
8248A	McFain silty clay, 0 to 2 percent slopes, occasionally flooded-----	1,695	0.7
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	1,304	0.5
9278A	Stronghurst silt loam, terrace, 0 to 2 percent slopes-----	235	*
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes-----	362	0.1
9279C2	Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded-----	233	*
9279D3	Rozetta silty clay loam, terrace, 10 to 18 percent slopes, severely eroded-----	361	0.1
9962D3	Sylvan-Bold complex, terrace, 10 to 18 percent slopes, severely eroded-----	167	*
M-W	Miscellaneous water-----	5	*
W	Water-----	5,748	2.4
	Total-----	241,790	100.0

\* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the soils that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the soil is generally not suited to use as cropland or pastureland)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
8D2: Hickory-----	Crusting, water erosion	Low pH, water erosion
8D3: Hickory-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
8F: Hickory-----	---	Equipment limitation, low pH, water erosion
8F2: Hickory-----	---	Equipment limitation, low pH, water erosion
8G: Hickory-----	---	---
16A: Rushville-----	Ponding, crusting	Ponding, low pH, frost heave
17A: Keomah-----	Wetness, crusting	Wetness, low pH
45A: Denny-----	Ponding, crusting	Generally not used as pastureland
46A: Herrick-----	Wetness	Generally not used as pastureland
47A: Viriden-----	Ponding	Generally not used as pastureland
50A: Viriden-----	Ponding, poor tilth	Generally not used as pastureland
51A: Muscatune-----	Wetness	Generally not used as pastureland
61A: Atterberry-----	Wetness, crusting	Wetness, low pH
68A: Sable-----	Ponding, poor tilth	Generally not used as pastureland
75C: Drury-----	Crusting, water erosion	Water erosion
79B: Menfro-----	Crusting, water erosion	Low pH, water erosion
79C2: Menfro-----	Crusting, water erosion	Low pH, water erosion
79D2: Menfro-----	Crusting, water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
79D3: Menfro-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
79E2: Menfro-----	---	Equipment limitation, low pH, water erosion
79F: Menfro-----	---	Equipment limitation, low pH, water erosion,
86B: Osco-----	Water erosion	Low pH
86C2: Osco-----	Crusting, water erosion	Low pH, water erosion
112A: Cowden-----	Ponding, crusting	Ponding, low pH, frost heave
113A: Oconee-----	Wetness, crusting	Wetness, low pH
113B: Oconee-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
119C2: Elco-----	Crusting, water erosion	Low pH, water erosion
119C3: Elco-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
119D2: Elco-----	Crusting, water erosion	Low pH, water erosion
119D3: Elco-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
127B: Harrison-----	Water erosion	Low pH
259C2: Assumption-----	Crusting, water erosion	Low pH, water erosion
267A: Caseyville-----	Wetness, crusting	Wetness, low pH
267B: Caseyville-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
278A: Stronghurst-----	Wetness, crusting	Wetness, low pH
279B: Rozetta-----	Crusting, water erosion	Low pH, water erosion
279C2: Rozetta-----	Crusting, water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
279C3: Rozetta-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
279D2: Rozetta-----	Crusting, water erosion	Low pH, water erosion
279D3: Rozetta-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
280B: Fayette-----	Crusting, water erosion	Low pH, water erosion
280C: Fayette-----	Crusting, water erosion	Low pH, water erosion
280C2: Fayette-----	Crusting, water erosion	Low pH, water erosion
280C3: Fayette-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
280D: Fayette-----	Crusting, water erosion	Low pH, water erosion
280D2: Fayette-----	Crusting, water erosion	Low pH, water erosion
280D3: Fayette-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
280E2: Fayette-----	---	Equipment limitation, low pH, water erosion
280F: Fayette-----	---	Equipment limitation, low pH, water erosion
434B: Ridgway-----	Water erosion	Low pH, water erosion
438B: Aviston-----	Water erosion	Low pH
477B: Winfield-----	Crusting, water erosion	Low pH, water erosion
477B3: Winfield-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
477C2: Winfield-----	Crusting, water erosion	Low pH, water erosion
477C3: Winfield-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
477D2: Winfield-----	Crusting, water erosion	Low pH, water erosion
477D3: Winfield-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
515B2: Bunkum-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
515C2: Bunkum-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
515C3: Bunkum-----	Wetness, poor tilth, crusting, water erosion	Wetness, poor tilth, low pH, water erosion, low fertility
538B2: Emery-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
538C2: Emery-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
582B: Homen-----	Crusting, water erosion	Low pH, water erosion
675B: Greenbush-----	Crusting, water erosion	Low pH, water erosion
675C2: Greenbush-----	Crusting, water erosion	Low pH, water erosion
701F: Menfro-----	---	Equipment limitation, low pH, water erosion
Hickory-----	---	Equipment limitation, low pH, water erosion
833F, 833F2: Menfro-----	---	---
Goss-----	---	---
833G: Goss-----	---	---
Menfro-----	---	---
836G: Hamburg-----	---	---
Lacrescent-----	---	---
837G: Rock outcrop, limestone.		
Lacrescent-----	---	---

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
838F, 838F2: Fayette-----	---	---
Goss-----	---	---
838G: Goss-----	---	---
Fayette-----	---	---
885A: Virden-----	Ponding	Generally not used as pastureland
Fosterburg-----	Ponding, excess sodium	Generally not used as pastureland
894A: Herrick-----	Wetness	Generally not used as pastureland
Biddle-----	Wetness, excess sodium	Generally not used as pastureland
Piasa-----	Ponding, excess sodium	Generally not used as pastureland
897C2: Bunkum-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
Atlas-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
962D2: Sylvan-----	High pH, crusting, water erosion	High pH, water erosion
Bold-----	Excess lime, water erosion	Water erosion, excess lime
962D3: Sylvan-----	Poor tilth, high pH, crusting, water erosion	Poor tilth, high pH, water erosion, low fertility
Bold-----	Excess lime, water erosion	Water erosion, low fertility, excess lime
962E2: Sylvan-----	---	Equipment limitation, high pH, water erosion
Bold-----	---	Equipment limitation, water erosion, excess lime
962F: Sylvan-----	---	Equipment limitation, high pH, water erosion
Bold-----	---	Equipment limitation, water erosion, excess lime
962G: Sylvan-----	---	---
Bold-----	---	---

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
993A: Cowden-----	Ponding, crusting	Generally not used as pastureland
Piasa-----	Ponding, excess sodium	Generally not used as pastureland
3070A: Beaucoup-----	Flooding, ponding, poor tilth	Generally not used as pastureland
3070L: Beaucoup-----	Flooding, ponding, poor tilth	Generally not used as pastureland
3071L: Darwin-----	---	---
3074A: Radford-----	Flooding, wetness	Flooding, wetness
3077A: Huntsville-----	Flooding	Flooding
3107A: Sawmill-----	Flooding, ponding, poor tilth	Flooding, ponding, poor tilth, frost heave
3288A: Petrolia-----	Flooding, ponding, poor tilth, crusting	Flooding, ponding, poor tilth, frost heave
3333A: Wakeland-----	Flooding, wetness	Flooding, wetness
3336A: Wilbur-----	Flooding, wetness	Flooding, wetness
3451A: Lawson-----	Flooding, wetness	Flooding, wetness
3475A: Elsah-----	Flooding, limited available water capacity	Flooding, limited available water capacity
3634A: Blyton-----	Flooding	Flooding
3641L: Quiver-----	---	---
7037B: Worthen-----	Water erosion	Water erosion
7075B: Drury-----	Crusting, water erosion	Water erosion
7081A: Littleton-----	Wetness	Generally not used as pastureland
7242A: Kendall-----	Wetness, crusting	Wetness, low pH
7338B2: Hurst-----	Wetness, poor tilth, high pH, water erosion	Wetness, poor tilth, high pH,

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
7432A: Geff-----	Wetness, crusting, excessive permeability	Wetness, low pH, excessive permeability
7434B: Ridgway-----	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability
7457A: Booker-----	Ponding, poor tilth, high pH	Generally not used as pastureland
8028A: Jules-----	Flooding, excess lime	Generally not used as pastureland
8070A: Beaucoup-----	Flooding, ponding, poor tilth	Generally not used as pastureland
8071A: Darwin-----	Flooding, ponding, poor tilth	Generally not used as pastureland
8180A: Dupo-----	Flooding, wetness	Generally not used as pastureland
8248A: McFain-----	Flooding, ponding, poor tilth	Generally not used as pastureland
8284A: Tice-----	Flooding, wetness, poor tilth	Generally not used as pastureland
9278A: Stronghurst-----	Wetness, crusting	Wetness, low pH
9279B: Rozetta-----	Crusting, water erosion	Low pH, water erosion
9279C2: Rozetta-----	Crusting, water erosion	Low pH, water erosion
9279D3: Rozetta-----	Poor tilth, crusting, water erosion	Poor tilth, low pH, water erosion, low fertility
9962D3: Sylvan-----	Poor tilth, high pH, crusting, water erosion	Poor tilth, high pH, water erosion, low fertility
Bold-----	Excess lime, water erosion	Water erosion, low fertility, excess lime

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management, except grass-legume pasture yields, which are based on an average level of management. The yields are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
8D2: Hickory-----	3e	95	32	38	3.10	4.50
8D3: Hickory-----	4e	86	29	35	2.90	4.20
8F: Hickory-----	6e	---	---	---	2.57	3.78
8F2: Hickory-----	6e	---	---	---	2.30	3.50
8G: Hickory-----	7e	---	---	---	---	---
16A: Rushville-----	3w	133	43	---	4.18	6.20
17A: Keomah-----	2w	145	46	59	4.63	6.80
45A: Denny-----	3w	143	47	---	---	---
46A: Herrick-----	1	164	53	66	---	---
47A: Virden-----	2w	166	54	---	---	---
50A: Virden-----	2w	164	53	---	---	---
51A: Muscatune-----	1	180	57	68	---	---
61A: Atterberry-----	2w	164	51	64	4.97	7.30
68A: Sable-----	2w	173	57	---	---	---
75C: Drury-----	3e	151	47	59	5.00	7.30
79B: Menfro-----	2e	148	46	56	4.40	6.50
79C2: Menfro-----	3e	139	43	53	4.10	6.00
79D2: Menfro-----	3e	130	40	50	3.80	5.50

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
79D3: Menfro-----	4e	118	36	45	3.50	5.00
79E2: Menfro-----	6e	---	---	---	3.40	4.80
79F: Menfro-----	6e	---	---	---	3.20	4.70
86B: Osco-----	2e	170	54	67	6.20	9.00
86C2: Osco-----	3e	160	50	63	5.80	8.50
112A: Cowden-----	3w	143	45	---	4.41	6.50
113A: Oconee-----	2w	148	45	57	4.75	7.00
113B: Oconee-----	2e	146	45	56	4.70	6.90
119C2: Elco-----	3e	126	42	49	3.60	5.20
119C3: Elco-----	4e	117	39	46	3.30	4.80
119D2: Elco-----	3e	118	39	46	3.30	4.80
119D3: Elco-----	4e	107	36	42	3.00	4.30
127B: Harrison-----	2e	159	50	62	5.10	7.70
259C2: Assumption-----	3e	137	44	55	4.00	5.80
267A: Caseyville-----	2w	154	47	59	4.75	7.00
267B: Caseyville-----	2e	152	46	58	4.70	7.00
278A: Stronghurst-----	2w	154	48	60	4.75	7.00
279B: Rozetta-----	2e	146	46	58	4.70	7.00
279C2: Rozetta-----	3e	138	43	55	4.40	6.50
279C3: Rozetta-----	4e	127	40	51	4.10	5.80

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
279D2: Rozetta-----	3e	129	40	51	4.10	6.00
279D3: Rozetta-----	4e	117	36	47	3.80	5.30
280B: Fayette-----	2e	148	45	57	4.70	7.00
280C: Fayette-----	3e	146	46	58	4.60	6.70
280C2: Fayette-----	3e	140	44	56	4.40	6.50
280C3: Fayette-----	4e	129	40	52	4.10	5.80
280D: Fayette-----	3e	136	43	55	4.30	6.30
280D2: Fayette-----	3e	130	41	52	4.10	6.00
280D3: Fayette-----	4e	118	37	47	3.80	5.30
280E2: Fayette-----	6e	---	---	---	3.60	5.20
280F: Fayette-----	6e	---	---	---	3.50	5.00
434B: Ridgway-----	2e	146	45	54	4.00	6.00
438B: Aviston-----	2e	165	52	63	5.80	8.50
477B: Winfield-----	2e	144	45	56	4.50	6.70
477B3: Winfield-----	3e	128	40	50	4.00	5.70
477C2: Winfield-----	3e	136	42	53	4.20	6.20
477C3: Winfield-----	4e	126	39	49	3.90	5.70
477D2: Winfield-----	3e	127	39	50	3.90	5.70
477D3: Winfield-----	4e	115	36	45	3.60	5.20
515B2: Bunkum-----	2e	125	43	48	3.30	4.80

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
515C2: Bunkum-----	3e	123	42	47	3.30	4.80
515C3: Bunkum-----	4e	114	39	44	3.00	4.30
538B2: Emery-----	2e	154	47	56	4.30	6.30
538C2: Emery-----	3e	145	46	55	4.20	6.20
582B: Homen-----	2e	134	43	51	3.40	5.00
675B: Greenbush-----	2e	164	52	62	4.80	7.20
675C2: Greenbush-----	3e	154	48	59	4.50	6.70
701F-----		---	---	---	2.88	4.30
Menfro-----	6e					
Hickory-----	6e					
802E: Orthents-----	6e	---	---	---	---	---
833F-----		---	---	---	---	---
Menfro-----	6e					
Goss-----	7e					
833F2-----		---	---	---	---	---
Menfro-----	6e					
Goss-----	7e					
833G-----		---	---	---	---	---
Goss-----	7e					
Menfro-----	7e					
836G-----		---	---	---	---	---
Hamburg-----	7e					
Lacrescent-----	7e					
837G-----		---	---	---	---	---
Rock outcrop, limestone-----	7s					
Lacrescent-----	7e					
838F-----		---	---	---	---	---
Fayette-----	6e					
Goss-----	7e					
838F2-----		---	---	---	---	---
Fayette-----	6e					
Goss-----	7e					
838G-----		---	---	---	---	---
Goss-----	7e					
Fayette-----	7e					

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
864. Pits, quarries						
885A----- Virden----- Fosterburg-----	2w 3w	158	52	---	---	---
894A----- Herrick----- Biddle----- Piasa-----	1 2w 3w	148	48	59	---	---
897C2----- Bunkum----- Atlas-----	3e 3e	109	38	43	3.10	3.88
962D2----- Sylvan----- Bold-----	3e 3e	120	37	46	3.24	4.64
962D3----- Sylvan----- Bold-----	4e 4e	108	34	42	2.97	4.18
962E2----- Sylvan----- Bold-----	6e 6e	---	---	---	3.07	3.98
962F----- Sylvan----- Bold-----	6e 6e	---	---	---	2.73	3.98
962G----- Sylvan----- Bold-----	7e 7e	---	---	---	---	---
993A----- Cowden----- Piasa-----	3w 3w	132	44	52	3.82	6.00
3070A: Beaucoup-----	3w	143	48	---	4.38	7.20
3070L: Beaucoup-----	4w	111	37	---	---	---
3071L: Darwin-----	5w	---	---	---	---	---
3074A: Radford-----	3w	150	48	---	4.50	6.70
3077A: Huntsville-----	2w	157	50	---	6.10	9.00
3107A: Sawmill-----	3w	153	49	---	4.70	6.80
3288A: Petrolia-----	3w	131	40	---	4.00	5.80

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
3333A: Wakeland-----	3w	141	46	---	4.20	6.20
3336A: Wilbur-----	2w	140	45	---	4.40	6.50
3451A: Lawson-----	3w	154	50	---	4.70	6.80
3475A: Elsah-----	2s	119	40	---	3.40	5.00
3634A: Blyton-----	2w	139	45	---	4.20	6.20
3641L: Quiver-----	5w	---	---	---	---	---
7037B: Worthen-----	2e	173	54	66	6.30	9.20
7075B: Drury-----	2e	154	48	60	5.10	7.70
7081A: Littleton-----	1	175	55	67	5.42	8.00
7242A: Kendall-----	2w	155	48	60	4.75	7.00
7338B2: Hurst-----	3e	111	36	46	3.40	5.30
7432A: Geff-----	1	136	42	51	4.41	6.50
7434B: Ridgway-----	2e	146	43	52	4.00	6.00
7457A: Booker-----	3w	105	37	40	3.50	5.20
8028A: Jules-----	2w	153	47	57	4.41	6.50
8070A: Beaucoup-----	2w	159	53	62	4.86	7.20
8071A: Darwin-----	3w	134	45	54	3.96	5.80
8180A: Dupo-----	3w	164	51	61	4.63	6.80
8248A: McFain-----	3w	146	47	57	4.07	6.00
8284A: Tice-----	2w	166	51	63	5.09	7.50

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Tons	AUM*
9278A: Stronghurst-----	2w	154	48	60	4.75	7.00
9279B: Rozetta-----	2e	146	46	58	4.70	7.00
9279C2: Rozetta-----	3e	138	43	55	4.40	6.50
9279D3: Rozetta-----	4e	129	36	47	3.80	5.30
9962D3----- Sylvan----- Bold-----	4e 4e	108	34	42	2.97	4.18

\* Animal unit month: The amount of forage required to feed one mature cow of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
17A	Keomah silt loam, 0 to 2 percent slopes (where drained)
45A	Denny silt loam, 0 to 2 percent slopes (where drained)
46A	Herrick silt loam, 0 to 2 percent slopes
47A	Viriden silt loam, 0 to 2 percent slopes (where drained)
50A	Viriden silty clay loam, 0 to 2 percent slopes (where drained)
51A	Muscatune silt loam, 0 to 2 percent slopes
61A	Atterberry silt loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
79B	Menfro silt loam, 2 to 5 percent slopes
86B	Osco silt loam, 2 to 5 percent slopes
112A	Cowden silt loam, 0 to 2 percent slopes (where drained)
113A	Oconee silt loam, 0 to 2 percent slopes (where drained)
113B	Oconee silt loam, 2 to 5 percent slopes
127B	Harrison silt loam, 2 to 5 percent slopes
267A	Caseyville silt loam, 0 to 2 percent slopes (where drained)
267B	Caseyville silt loam, 2 to 5 percent slopes
278A	Stronghurst silt loam, 0 to 2 percent slopes (where drained)
279B	Rozetta silt loam, 2 to 5 percent slopes
280B	Fayette silt loam, 2 to 5 percent slopes
434B	Ridgway silt loam, 2 to 5 percent slopes
438B	Aviston silt loam, 2 to 5 percent slopes
477B	Winfield silt loam, 2 to 5 percent slopes
515B2	Bunkum silt loam, 2 to 5 percent slopes, eroded
538B2	Emery silt loam, 2 to 5 percent slopes, eroded
582B	Homen silt loam, 2 to 5 percent slopes
675B	Greenbush silt loam, 2 to 5 percent slopes
885A	Viriden-Fosterburg silt loams, 0 to 2 percent slopes (where drained)
894A	Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes (where drained)
993A	Cowden-Piasa silt loams, 0 to 2 percent slopes (where drained)
3070A	Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3077A	Huntsville silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3288A	Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3333A	Wakeland silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3336A	Wilbur silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3475A	Elsah gravelly loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3634A	Blyton silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7037B	Worthen silt loam, 2 to 5 percent slopes, rarely flooded
7075B	Drury silt loam, 2 to 5 percent slopes, rarely flooded
7081A	Littleton silt loam, 0 to 2 percent slopes, rarely flooded
7242A	Kendall silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
7432A	Geff silt loam, 0 to 2 percent slopes, rarely flooded
7434B	Ridgway silt loam, 2 to 5 percent slopes, rarely flooded
7457A	Booker clay, 0 to 2 percent slopes, rarely flooded (where drained)
8028A	Jules silt loam, 0 to 2 percent slopes, occasionally flooded
8070A	Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8071A	Darwin silty clay, 0 to 2 percent slopes, occasionally flooded (where drained)

Table 8.--Prime Farmland--Continued

Map symbol	Soil name
8180A	Dupo silt loam, 0 to 2 percent slopes, occasionally flooded
8248A	McFain silty clay, 0 to 2 percent slopes, occasionally flooded (where drained)
8284A	Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded
9278A	Stronghurst silt loam, terrace, 0 to 2 percent slopes (where drained)
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes

Table 9.--Hydric Soils

(Only map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the hydric criteria codes)

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
16A: Rushville silt loam, 0 to 2 percent slopes	Rushville	Depression	Hydric	2B3
17A: Keomah silt loam, 0 to 2 percent slopes	Keomah Rushville	Ground moraine Depression	Not hydric Hydric	--- 2B3
45A: Denny silt loam, 0 to 2 percent slopes	Denny	Depression	Hydric	2B3
46A: Herrick silt loam, 0 to 2 percent slopes	Herrick Viriden	Ground moraine Depression	Not hydric Hydric	--- 2B3
47A: Viriden silt loam, 0 to 2 percent slopes	Viriden	Ground moraine	Hydric	2B3
50A: Viriden silty clay loam, 0 to 2 percent slopes	Viriden	Ground moraine	Hydric	2B3
51A: Muscatune silt loam, 0 to 2 percent slopes	Muscatune Denny Sable	Ground moraine Depression Depression	Not hydric Hydric Hydric	--- 2B3 2B3
61A: Atterberry silt loam, 0 to 2 percent slopes	Atterberry Denny Sable	Ground moraine Depression Depression	Not hydric Hydric Hydric	--- 2B3 2B3
68A: Sable silty clay loam, 0 to 2 percent slopes	Sable	Ground moraine	Hydric	2B3
112A: Cowden silt loam, 0 to 2 percent slopes	Cowden	Ground moraine	Hydric	2B3
113A: Oconee silt loam, 0 to 2 percent slopes	Oconee Cowden Piassa	Ground moraine Depression Depression	Not hydric Hydric Hydric	--- 2B3 2B3
267A: Caseyville silt loam, 0 to 2 percent slopes	Caseyville Pierron	Ground moraine Depression	Not hydric Hydric	--- 2B3
278A: Stronghurst silt loam, 0 to 2 percent slopes	Stronghurst Rushville	Ground moraine Depression	Not hydric Hydric	--- 2B3
885A: Viriden-Fosterburg silt loams, 0 to 2 percent slopes	Viriden Fosterburg	Ground moraine Ground moraine	Hydric Hydric	2B3 2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
894A:				
Herrick-Biddle-Piasa silt loams, 0 to 2 percent slopes	Herrick	Ground moraine	Not hydric	---
	Biddle	Ground moraine	Not hydric	---
	Piasa	Ground moraine	Hydric	2B3
993A:				
Cowden-Piasa silt loams, 0 to 2 percent slopes	Cowden	Ground moraine	Hydric	2B3
	Piasa	Ground moraine	Hydric	2B3
3070A:				
Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded	Beaucoup	Flood plain	Hydric	2B3
3070L:				
Beaucoup silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	Beaucoup	Flood plain	Hydric	2B3,3,4
3071L:				
Darwin silty clay, 0 to 2 percent slopes, frequently flooded, long duration	Darwin	Flood plain	Hydric	2B3,3,4
3074A:				
Radford silt loam, 0 to 2 percent slopes, frequently flooded	Radford	Flood plain	Not hydric	---
	Sawmill	Swale	Hydric	2B3
3077A:				
Huntsville silt loam, 0 to 2 percent slopes, frequently flooded	Huntsville	Flood plain	Not hydric	---
	Beaucoup	Depression	Hydric	2B3
3107A:				
Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Flood plain	Hydric	2B3
3288A:				
Petrolia silty clay loam, 0 to 2 percent slopes, frequently flooded	Petrolia	Flood plain	Hydric	2B3
3333A:				
Wakeland silt loam, 0 to 2 percent slopes, frequently flooded	Wakeland	Flood plain	Not hydric	---
	Birds	Depression	Hydric	2B3,4
3336A:				
Wilbur silt loam, 0 to 2 percent slopes, frequently flooded	Wilbur	Flood plain	Not hydric	---
	Birds	Depression	Hydric	2B3,4
3451A:				
Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson	Flood plain	Not hydric	---
	Sawmill	Swale	Hydric	2B3
3634A:				
Blyton silt loam, 0 to 2 percent slopes, frequently flooded	Blyton	Flood plain	Not hydric	---
	Birds	Depression	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
3641L: Quiver silty clay loam, 0 to 2 percent slopes, frequently flooded, long duration	Quiver	Flood plain	Hydric	2B3,3,4
7081A: Littleton silt loam, 0 to 2 percent slopes, rarely flooded	Littleton Beaucoup	Alluvial fan Depression	Not hydric Hydric	--- 2B3
7242A: Kendall silt loam, 0 to 2 percent slopes, rarely flooded	Kendall Vesser	Flood-plain step Swale	Not hydric Hydric	--- 2B3
7457A: Booker clay, 0 to 2 percent slopes, rarely flooded	Booker	Flood plain	Hydric	2B3
8028A: Jules silt loam, 0 to 2 percent slopes, occasionally flooded	Jules Beaucoup	Flood plain Depression	Not hydric Hydric	--- 2B3
8070A: Beaucoup silty clay loam, 0 to 2 percent slopes, occasionally flooded	Beaucoup	Flood plain	Hydric	2B3
8071A: Darwin silty clay, 0 to 2 percent slopes, occasionally flooded	Darwin	Flood plain	Hydric	2B3
8180A: Dupo silt loam, 0 to 2 percent slopes, occasionally flooded	Dupo Darwin	Flood plain Depression	Not hydric Hydric	--- 2B3
8248A: McFain silty clay, 0 to 2 percent slopes, occasionally flooded	McFain	Flood plain	Hydric	2B3
8284A: Tice silty clay loam, 0 to 2 percent slopes, occasionally flooded	Tice Beaucoup	Flood plain Depression	Not hydric Hydric	--- 2B3
9278A: Stronghurst silt loam, terrace, 0 to 2 percent slopes	Stronghurst Rushville	Stream terrace Depression	Not hydric Hydric	--- 2B3

Table 10.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8D2: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8D3: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8F: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8F2: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
8G: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
16A: Rushville-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
17A: Keomah-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
45A: Denny-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
46A: Herrick-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
47A: Viriden-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
50A: Viriden-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
51A: Muscatune-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
61A: Atterberry-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
68A: Sable-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
75C: Drury-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
79B: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
79C2: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
79D2: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
79D3: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
79E2: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
79F: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86B: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
86C2: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
112A: Cowden-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113A: Oconee-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
113B: Oconee-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
119C2: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
119C3: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
119D2: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
119D3: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
127B: Harrison-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
259C2: Assumption-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
267A: Caseyville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
267B: Caseyville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
278A: Stronghurst-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
279B: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279C2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279C3: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
279D2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
279D3: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280B: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280C: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
280C2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280C3: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280D: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280D2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
280D3: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280E2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280F: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
434B: Ridgway-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
438B: Aviston-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477B: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477B3: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477C2: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
477C3: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477D2: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
477D3: Winfield-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
515B2: Bunkum-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
515C2: Bunkum-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
515C3: Bunkum-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
538B2: Emery-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
538C2: Emery-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
582B: Homen-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
675B: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
675C2: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
701F: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
802E. Orthents					
833F: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
833F2: Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
833G: Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
Menfro-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
836G: Hamburg-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
836G: Lacrescent-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
837G: Rock outcrop, limestone.					
Lacrescent-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
838F: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
838F2: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
838F2: Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
838G: Goss-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
864. Pits, quarries					
885A: Virden-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
885A: Fosterburg-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
894A: Herrick-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Biddle-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Piasa-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
897C2: Bunkum-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Atlas-----	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
962D2: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
962D3: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar
962E2: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar
962F: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
962F: Bold-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar
962G: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold-----	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar
993A: Cowden-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Piasa-----	Common juniper-----	American hazelnut, common serviceberry, common winterberry, eastern redcedar, prairie crabapple	Douglas fir, blue spruce, eastern white pine	---	---

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3070A: Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3070L: Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3071L: Darwin-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3074A: Radford-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3077A: Huntsville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107A: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3288A: Petrolia-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3333A: Wakeland-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3336A: Wilbur-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3451A: Lawson-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3475A: Elsah-----	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
3634A: Blyton-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3641L: Quiver-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7037B: Worthen-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7075B: Drury-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7081A: Littleton-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7242A: Kendall-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7338B2: Hurst-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
7432A: Geff-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7434B: Ridgway-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7457A: Booker-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
8028A: Jules-----	Common winterberry, gray dogwood, redosier dogwood, silky dogwood	Blackhaw, common pawpaw, common serviceberry, downy arrowwood, roughleaf dogwood, southern arrowwood	Austrian pine, arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn, nannyberry	Carolina poplar, eastern cottonwood	---
8070A: Beaucoup-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8071A: Darwin-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8180A: Dupo-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8248A: McFain-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
8284A: Tice-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
9278A: Stronghurst-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
9279B: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
9279C2: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
9279D3: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
9962D3: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
9962D3: <b>Bold-----</b>	American hazelnut, coralberry, mapleleaf viburnum, redosier dogwood	Common serviceberry, downy arrowwood, eastern redcedar, southern arrowwood	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry	Eastern cottonwood	Carolina poplar

Table 11.--Forestland Productivity

(Only the soils suitable for production of commercial trees are listed)

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
8D2:				
Hickory-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
8D3:				
Hickory-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
8F:				
Hickory-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
8F2:				
Hickory-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
8G:				
Hickory-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
16A:				
Rushville-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
17A:				
Keomah-----	Northern red oak-----	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak-----	65	43	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
45A:				
Denny-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
46A:				
Herrick-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
47A: Viriden-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
50A: Viriden-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
51A: Muscatune-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
61A: Atterberry-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	70 70 --- ---	57 57 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
68A: Sable-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
75C: Drury-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	85 85 --- ---	72 72 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
79B: Menfro-----	White oak----- Northern red oak----- Sugar maple----- Shagbark hickory-----	59 81 68 ---	43 57 72 ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
79C2: Menfro-----	Northern red oak----- Black oak----- White oak----- Bitternut hickory-----	81 73 59 ---	57 57 43 ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
79D2: Menfro-----	Northern red oak----- Black oak----- White oak----- Bitternut hickory-----	81 73 59 ---	57 57 43 ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
79D3: Menfro-----	Northern red oak-----	81	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
79E2: Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
79F: Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
86B: Osco-----	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
86C2: Osco-----	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
112A: Cowden-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
113A: Oconee-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
113B: Oconee-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
119C2: Elco-----	Northern red oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
119C3: Elco-----	White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	80 --- --- ---	57 --- --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
119D2: Elco-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	85 85 --- ---	72 72 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
119D3: Elco-----	White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	80 --- --- ---	57 --- --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
127B: Harrison-----	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
259C2: Assumption-----	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
267A: Caseyville-----	White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	75 --- --- ---	57 --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
267B: Caseyville-----	White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	75 --- --- ---	57 --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
278A: Stronghurst-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	70 70 --- ---	57 57 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
279B: Rozetta-----	White oak----- Northern red oak----- Sugar maple----- Shagbark hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
279C2: Rozetta-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
279C3: Rozetta-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
279D2: Rozetta-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
279D3: Rozetta-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280B: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280C: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280C2: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280C3: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280D: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
280D2: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280D3: Fayette-----	Northern red oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280E2: Fayette-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
280F: Fayette-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
434B: Ridgway-----	White oak-----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	---	---	
	Sugar maple-----	---	---	
	Shagbark hickory-----	---	---	
438B: Aviston-----	---	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
477B: Winfield-----	Black oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	60	43	
	White oak-----	65	43	
	Bitternut hickory-----	---	---	
477B3: Winfield-----	Black oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	60	43	
	White oak-----	65	43	
	Bitternut hickory-----	---	---	
477C2: Winfield-----	Black oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	60	43	
	White oak-----	65	43	
	Bitternut hickory-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
477C3: Winfield-----	White oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	65	43	
	Northern red oak-----	60	43	
	Bitternut hickory-----	---	---	
477D2: Winfield-----	White oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	65	43	
	Northern red oak-----	60	43	
	Bitternut hickory-----	---	---	
477D3: Winfield-----	White oak-----	65	43	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	65	43	
	Northern red oak-----	60	43	
	Bitternut hickory-----	---	---	
515B2: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
515C2: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
515C3: Bunkum-----	White oak-----	75	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
538B2: Emery-----	White oak-----	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	70	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
538C2: Emery-----	White oak-----	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	70	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
582B: Homen-----	White oak-----	75	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	---	---	
	Sugar maple-----	---	---	
	Shagbark hickory-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
675B:				
Greenbush-----	White oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	80	57	
	Sugar maple-----	---	---	
	Shagbark hickory-----	---	---	
675C2:				
Greenbush-----	White oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Northern red oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
701F:				
Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
Hickory-----	Northern red oak-----	85	72	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	85	72	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
833F:				
Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
833F2:				
Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
833G:				
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Menfro-----	Northern red oak-----	81	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	Black oak-----	73	57	
	White oak-----	59	43	
	Bitternut hickory-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
836G:				
Hamburg-----	White oak-----	45	29	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.
	Northern red oak-----	---	---	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	
Lacrescent-----	Northern red oak-----	59	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	White oak-----	55	43	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
837G:				
Rock outcrop, limestone.				
Lacrescent-----	Northern red oak-----	59	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	White oak-----	55	43	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
838F:				
Fayette-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
838F2:				
Fayette-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
838G:				
Goss-----	White oak-----	54	43	Bur oak, chinkapin oak, eastern redcedar, honeylocust.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Fayette-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
885A:				
Viriden-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
Fosterburg-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
894A:				
Herrick-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
Biddle-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
Piasa-----	---	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
897C2:				
Bunkum-----	White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	75 --- --- ---	57 --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
Atlas-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	70 70 --- ---	57 57 --- ---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
962D2:				
Sylvan-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.
962D3:				
Sylvan-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.
962E2:				
Sylvan-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
962F:				
Sylvan-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.
962G:				
Sylvan-----	Northern red oak-----	80	57	Eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
	White oak-----	80	57	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.
993A:				
Cowden-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
Piasa-----	---	---	---	Rocky Mountain Douglas-fir, blue spruce, eastern redcedar, eastern white pine.
3070A:				
Beaucoup-----	Eastern cottonwood-----	100	129	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak-----	90	72	
	American sycamore-----	---	---	
	Swamp white oak-----	---	---	
	Silver maple-----	---	---	
3070L:				
Beaucoup-----	Eastern cottonwood-----	100	129	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak-----	90	72	
	American sycamore-----	---	---	
	Swamp white oak-----	---	---	
	Silver maple-----	---	---	
3071L:				
Darwin-----	Pin oak-----	80	57	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Eastern cottonwood-----	---	---	
	American sycamore-----	---	---	
	Swamp white oak-----	---	---	
	Silver maple-----	---	---	
3074A:				
Radford-----	Pin oak-----	96	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak-----	---	---	
	Northern red oak-----	---	---	
	Bitternut hickory-----	---	---	
	Black oak-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
3077A: Huntsville-----	Eastern cottonwood-----	110	157	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	---	---	
	White oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
3107A: Sawmill-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	American sycamore-----	---	---	
	Eastern cottonwood-----	---	---	
	Silver maple-----	---	---	
	Swamp white oak-----	---	---	
3288A: Petrolia-----	Eastern cottonwood-----	97	129	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak-----	87	72	
	Swamp white oak-----	---	---	
	American sycamore-----	---	---	
	Silver maple-----	---	---	
3333A: Wakeland-----	Pin oak-----	90	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	White oak-----	---	---	
	Bitternut hickory-----	---	---	
3336A: Wilbur-----	Tuliptree-----	100	114	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak-----	---	---	
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
3451A: Lawson-----	Silver maple-----	70	29	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak-----	---	---	
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
3475A: Elsah-----	Eastern cottonwood-----	95	114	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
	White oak-----	---	---	
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
3634A: Blyton-----	Pin oak-----	90	72	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
	White oak-----	---	---	
	Northern red oak-----	---	---	
	Black oak-----	---	---	
	Bitternut hickory-----	---	---	
3641L: Quiver-----	Eastern cottonwood-----	100	128	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
	Pin oak-----	90	72	
	Silver maple-----	---	---	
	American sycamore-----	---	---	
	Swamp white oak-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
7037B: Worthen-----	---	---	---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7075B: Drury-----	White oak----- Northern red oak----- Sugar maple----- Shagbark hickory-----	85 85 --- ---	72 72 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7081A: Littleton-----	Pin oak----- White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	90 --- --- --- ---	72 --- --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7242A: Kendall-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7338B2: Hurst-----	White oak----- Northern red oak----- Bitternut hickory----- Black oak-----	70 --- --- ---	57 --- --- ---	Austrian pine, bitternut hickory, bur oak, chinkapin oak, common hackberry, eastern redcedar, honeylocust.
7432A: Geff-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	70 70 --- ---	57 57 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7434B: Ridgway-----	White oak----- Northern red oak----- Sugar maple----- Shagbark hickory-----	85 --- --- ---	72 --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
7457A: Booker-----	---	---	---	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar.
8028A: Jules-----	Bur oak----- White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	80 --- --- --- ---	57 --- --- --- ---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
8070A: Beaucoup-----	Eastern cottonwood----- Pin oak----- American sycamore----- Swamp white oak----- Silver maple-----	100 90 --- --- ---	129 72 --- --- ---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
8071A: Darwin-----	Pin oak----- Eastern cottonwood----- American sycamore----- Swamp white oak----- Silver maple-----	80 --- --- --- ---	57 --- --- --- ---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
8180A: Dupo-----	---	---	---	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum.
8248A: McFain-----	---	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar.
8284A: Tice-----	Pin oak----- White oak----- Northern red oak----- Black oak----- Bitternut hickory-----	96 --- --- --- ---	72 --- --- --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
9278A: Stronghurst-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	70 70 --- ---	57 57 --- ---	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak.
9279B: Rozetta-----	Northern red oak----- White oak----- Sugar maple----- Shagbark hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
9279C2: Rozetta-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
9279D3: Rozetta-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.
9962D3: Sylvan-----	Northern red oak----- White oak----- Black oak----- Bitternut hickory-----	80 80 --- ---	57 57 --- ---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak.

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac/yr	
9962D3: Bold-----	---	---	---	Austrian pine, blue spruce, bur oak, chinkapin oak, common hackberry, eastern cottonwood.

Table 12a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8D3: Hickory-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8F: Hickory-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8F2: Hickory-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
8G: Hickory-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
16A: Rushville-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
17A: Keomah-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
45A: Denny-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
46A: Herrick-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Virден-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
50A: Virден-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
51A: Muscatune-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00
61A: Atterberry-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
68A: Sable-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
75C: Drury-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
79B: Menfro-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
79C2: Menfro-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
79D2: Menfro-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
79D3: Menfro-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79E2: Menfro-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
79F: Menfro-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
86B: Osco-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
86C2: Osco-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
112A: Cowden-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
113A: Oconee-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
113B: Oconee-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
119C2: Elco-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
119C3: Elco-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
119D2: Elco-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
119D3: Elco-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127B: Harrison-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
259C2: Assumption-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
267A: Caseyville-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
267B: Caseyville-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
278A: Stronghurst-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
279B: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
279C2: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
279C3: Rozetta-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
279D2: Rozetta-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
279D3: Rozetta-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280B: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
280C: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280C2: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
280C3: Fayette-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
280D: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280D2: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280D3: Fayette-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280E2: Fayette-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
280F: Fayette-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
434B: Ridgway-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
438B: Aviston-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
477B: Winfield-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
477B3: Winfield-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
477C2: Winfield-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477C3: Winfield-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
477D2: Winfield-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
477D3: Winfield-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
515B2: Bunkum-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00
515C2: Bunkum-----	Moderate Low strength	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50	Severe Low strength	1.00
515C3: Bunkum-----	Moderate Low strength	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50	Severe Low strength	1.00
538B2: Emery-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
538C2: Emery-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength Slope	0.50 0.50 0.50	Severe Low strength	1.00
582B: Homen-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
675B: Greenbush-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
675C2: Greenbush-----	Moderate Low strength	0.50	Moderately suited Low strength Slope	0.50 0.50	Severe Low strength	1.00
701F: Menfro-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Hickory-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
802E: Orthents-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
833F: Menfro-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Goss-----	Moderate Slope Stickiness/slope	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
833F2: Menfro-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Goss-----	Moderate Slope Stickiness/slope	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
833G: Goss-----	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Menfro-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
836G: Hamburg-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Lacrescent-----	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
838F: Fayette-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Goss-----	Moderate Slope Stickiness/slope	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
838F2: Fayette-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Goss-----	Moderate Slope Stickiness/slope	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
838G: Goss-----	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Fayette-----	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Virden-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
Fosterburg-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
894A: Herrick-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
894A: Biddle-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00
Piasa-----	Moderate Low strength	0.50	Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50	Severe Low strength	1.00
897C2: Bunkum-----	Moderate Low strength	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50	Severe Low strength	1.00
Atlas-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength Slope	0.50 0.50 0.50	Severe Low strength	1.00
962D2: Sylvan-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Bold-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
962D3: Sylvan-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Bold-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
962E2: Sylvan-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Bold-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
962F: Sylvan-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Bold-----	Moderate Slope Low strength	0.50 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962G:						
Sylvan-----	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
Bold-----	Severe		Poorly suited		Severe	
	Slope	1.00	Slope	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
993A:						
Cowden-----	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Depth to saturated zone	1.00		
			Low strength	0.50		
Piasa-----	Moderate		Poorly suited		Severe	
	Low strength	0.50	Ponding	1.00	Low strength	1.00
			Depth to saturated zone	1.00		
			Low strength	0.50		
3070A:						
Beaucoup-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Depth to saturated zone	1.00		
			Low strength	0.50		
3070L:						
Beaucoup-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
			Depth to saturated zone	1.00		
			Low strength	0.50		
3071L:						
Darwin-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Ponding	1.00	Low strength	1.00
	Low strength	0.50	Flooding	1.00		
	Stickiness/slope	0.50	Depth to saturated zone	1.00		
			Low strength	0.50		
			Stickiness	0.50		
3074A:						
Radford-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		
			Depth to saturated zone	0.50		
3077A:						
Huntsville-----	Severe		Poorly suited		Severe	
	Flooding	1.00	Flooding	1.00	Low strength	1.00
	Low strength	0.50	Low strength	0.50		

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A: Sawmill-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Ponding Flooding Depth to saturated zone Low strength	1.00 1.00 1.00 0.50	Severe Low strength	1.00
3288A: Petrolia-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Ponding Flooding Depth to saturated zone Low strength	1.00 1.00 1.00 0.50	Severe Low strength	1.00
3333A: Wakeland-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Depth to saturated zone Low strength	1.00 0.50 0.50	Severe Low strength	1.00
3336A: Wilbur-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength Depth to saturated zone	1.00 0.50 0.50	Severe Low strength	1.00
3451A: Lawson-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength Depth to saturated zone	1.00 0.50 0.50	Severe Low strength	1.00
3475A: Elsah-----	Severe Flooding	1.00	Poorly suited Flooding	1.00	Moderate Low strength	0.50
3634A: Blyton-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
3641L: Quiver-----	Severe Flooding Depth to saturated zone Low strength	1.00 1.00 0.50	Poorly suited Ponding Flooding Depth to saturated zone Low strength	1.00 1.00 1.00 0.50	Severe Low strength Depth to	1.00 0.50
7037B: Worthen-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7075B: Drury-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
7081A: Littleton-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00
7242A: Kendall-----	Moderate Low strength	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
7338B2: Hurst-----	Moderate Stickiness/slope Low strength	0.50 0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50	Severe Low strength	1.00
7432A: Geff-----	Moderate Low strength	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50	Severe Low strength	1.00
7434B: Ridgway-----	Moderate Low strength	0.50	Moderately suited Low strength	0.50	Severe Low strength	1.00
7457A: Booker-----	Moderate Stickiness/slope Low strength	0.50 0.50	Poorly suited Ponding Depth to saturated zone Stickiness Low strength	1.00 1.00 0.50 0.50	Severe Low strength	1.00
8028A: Jules-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Flooding Low strength	1.00 0.50	Severe Low strength	1.00
8070A: Beaucoup-----	Severe Flooding Low strength	1.00 0.50	Poorly suited Ponding Flooding Depth to saturated zone Low strength	1.00 1.00 1.00 0.50	Severe Low strength	1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8071A: Darwin-----	Severe Flooding Low strength Stickiness/slope	 1.00 0.50 0.50	Poorly suited Ponding Flooding Depth to saturated zone Low strength Stickiness	 1.00 1.00 1.00  0.50 0.50	Severe Low strength	 1.00
8180A: Dupo-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Low strength Depth to saturated zone	 1.00 0.50 0.50	Severe Low strength	 1.00
8248A: McFain-----	Severe Flooding Stickiness/slope Low strength	 1.00 0.50 0.50	Poorly suited Ponding Flooding Depth to saturated zone Stickiness Low strength	 1.00 1.00 1.00  0.50 0.50	Severe Low strength	 1.00
8284A: Tice-----	Severe Flooding Low strength	 1.00 0.50	Poorly suited Flooding Low strength Depth to saturated zone	 1.00 0.50 0.50	Severe Low strength	 1.00
9278A: Stronghurst-----	Moderate Low strength	 0.50	Moderately suited Depth to saturated zone Low strength	 0.50 0.50	Severe Low strength	 1.00
9279B: Rozetta-----	Moderate Low strength	 0.50	Moderately suited Low strength	 0.50	Severe Low strength	 1.00
9279C2: Rozetta-----	Moderate Low strength	 0.50	Moderately suited Low strength Slope	 0.50 0.50	Severe Low strength	 1.00
9279D3: Rozetta-----	Moderate Low strength	 0.50	Poorly suited Slope Low strength	 1.00 0.50	Severe Low strength	 1.00
9962D3: Sylvan-----	Moderate Low strength	 0.50	Poorly suited Slope Low strength	 1.00 0.50	Severe Low strength	 1.00

Table 12a.--Forestland Management--Continued

Map symbol and soil name	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9962D3: Bold-----	Moderate Low strength	0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

Table 12b.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Slight		Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
8D3: Hickory-----	Slight		Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
8F: Hickory-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
8F2: Hickory-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
8G: Hickory-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
16A: Rushville-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
17A: Keomah-----	Slight		Slight		Moderately suited Depth to saturated zone Low strength	0.50 0.50
45A: Denny-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
46A: Herrick-----	Slight		Slight		Moderately suited Low strength Depth to saturated zone	0.50 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Virden-----	Slight		Slight		Poorly suited Ponding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
50A: Virden-----	Slight		Slight		Poorly suited Ponding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
51A: Muscatune-----	Slight		Slight		Moderately suited Low strength	0.50
					Depth to saturated zone	0.50
61A: Atterberry-----	Slight		Slight		Moderately suited Depth to saturated zone	0.50
					Low strength	0.50
68A: Sable-----	Slight		Slight		Poorly suited Ponding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
75C: Drury-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
					Slope	0.50
79B: Menfro-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
79C2: Menfro-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
					Slope	0.50
79D2: Menfro-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope	1.00
					Low strength	0.50
79D3: Menfro-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope	1.00
					Low strength	0.50
79E2: Menfro-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope	1.00
					Low strength	0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79F: Menfro-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
86B: Osco-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
86C2: Osco-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
112A: Cowden-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
113A: Oconee-----	Slight		Slight		Moderately suited Depth to saturated zone Low strength	0.50 0.50
113B: Oconee-----	Slight		Moderate Slope	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50
119C2: Elco-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
119C3: Elco-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
119D2: Elco-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
119D3: Elco-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
127B: Harrison-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
259C2: Assumption-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
267A: Caseyville-----	Slight		Slight		Moderately suited	
					Depth to	0.50
					saturated zone	
					Low strength	0.50
267B: Caseyville-----	Slight		Moderate Slope	0.50	Moderately suited	
					Depth to	0.50
					saturated zone	
					Low strength	0.50
278A: Stronghurst-----	Slight		Slight		Moderately suited	
					Depth to	0.50
					saturated zone	
					Low strength	0.50
279B: Rozetta-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
279C2: Rozetta-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
					Slope	0.50
279C3: Rozetta-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
					Slope	0.50
279D2: Rozetta-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited	
					Slope	1.00
					Low strength	0.50
279D3: Rozetta-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited	
					Slope	1.00
					Low strength	0.50
280B: Fayette-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
280C: Fayette-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
					Slope	0.50
280C2: Fayette-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
					Slope	0.50
280C3: Fayette-----	Slight		Moderate Slope	0.50	Moderately suited	
					Low strength	0.50
					Slope	0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D: Fayette-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
280D2: Fayette-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
280D3: Fayette-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
280E2: Fayette-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
280F: Fayette-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
434B: Ridgway-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
438B: Aviston-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
477B: Winfield-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
477B3: Winfield-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
477C2: Winfield-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
477C3: Winfield-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
477D2: Winfield-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
477D3: Winfield-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515B2: Bunkum-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Depth to saturated zone	0.50 0.50
515C2: Bunkum-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50
515C3: Bunkum-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50
538B2: Emery-----	Slight		Moderate Slope	0.50	Moderately suited Depth to saturated zone Low strength	0.50 0.50
538C2: Emery-----	Slight		Moderate Slope	0.50	Moderately suited Depth to saturated zone Low strength Slope	0.50 0.50 0.50
582B: Homen-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
675B: Greenbush-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
675C2: Greenbush-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
701F: Menfro-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Hickory-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
802E: Orthents-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833F:						
Menfro-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Goss-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
833F2:						
Menfro-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Goss-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
833G:						
Goss-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Menfro-----	Very severe Slope	0.95	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
836G:						
Hamburg-----	Very severe Slope	0.95	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Lacrescent-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
837G:						
Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
838F:						
Fayette-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Goss-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
838F2:						
Fayette-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Goss-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838G:						
Goss-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Fayette-----	Very severe Slope	0.95	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
864:						
Pits, quarries-----	Not rated		Not rated		Not rated	
885A:						
Virden-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
Fosterburg-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
894A:						
Herrick-----	Slight		Slight		Moderately suited Low strength Depth to saturated zone	0.50 0.50
Biddle-----	Slight		Slight		Moderately suited Low strength Depth to saturated zone	0.50 0.50
Piasa-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
897C2:						
Bunkum-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope Depth to saturated zone	0.50 0.50 0.50
Atlas-----	Slight		Moderate Slope	0.50	Moderately suited Depth to saturated zone Low strength Slope	0.50 0.50 0.50
962D2:						
Sylvan-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D2: Bold-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
962D3: Sylvan-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
962E2: Sylvan-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
962F: Sylvan-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Severe Slope	0.75	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
962G: Sylvan-----	Very severe Slope	0.95	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Very severe Slope	0.95	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
993A: Cowden-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
Piasa-----	Slight		Slight		Poorly suited Ponding Depth to saturated zone Low strength	1.00 1.00 0.50
3070A: Beaucoup-----	Slight		Slight		Poorly suited Ponding Flooding Depth to saturated zone Low strength	1.00 1.00 1.00 0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3070L: Beaucoup-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
3071L: Darwin-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
					Stickiness	0.50
3074A: Radford-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Depth to saturated zone	0.50
3077A: Huntsville-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
3107A: Sawmill-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
3288A: Petrolia-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
3333A: Wakeland-----	Slight		Slight		Poorly suited Flooding	1.00
					Depth to saturated zone	0.50
					Low strength	0.50
3336A: Wilbur-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Depth to saturated zone	0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3451A: Lawson-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Depth to saturated zone	0.50
3475A: Elsah-----	Slight		Slight		Poorly suited Flooding	1.00
3634A: Blyton-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
3641L: Quiver-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
7037B: Worthen-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
7075B: Drury-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
7081A: Littleton-----	Slight		Slight		Moderately suited Low strength	0.50
					Depth to saturated zone	0.50
7242A: Kendall-----	Slight		Slight		Moderately suited Depth to saturated zone	0.50
					Low strength	0.50
7338B2: Hurst-----	Slight		Moderate Slope	0.50	Moderately suited Depth to saturated zone	0.50
					Low strength	0.50
7432A: Geff-----	Slight		Slight		Moderately suited Low strength	0.50
					Depth to saturated zone	0.50
7434B: Ridgway-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7457A: Booker-----	Slight		Slight		Poorly suited Ponding	1.00
					Depth to saturated zone	1.00
					Stickiness	0.50
					Low strength	0.50
8028A: Jules-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
8070A: Beaucoup-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
8071A: Darwin-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Low strength	0.50
					Stickiness	0.50
8180A: Dupo-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Depth to saturated zone	0.50
8248A: McFain-----	Slight		Slight		Poorly suited Ponding	1.00
					Flooding	1.00
					Depth to saturated zone	1.00
					Stickiness	0.50
					Low strength	0.50
8284A: Tice-----	Slight		Slight		Poorly suited Flooding	1.00
					Low strength	0.50
					Depth to saturated zone	0.50
9278A: Stronghurst-----	Slight		Slight		Moderately suited Depth to saturated zone	0.50
					Low strength	0.50

Table 12b.--Forestland Management--Continued

Map symbol and soil name	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9279B: Rozetta-----	Slight		Moderate Slope	0.50	Moderately suited Low strength	0.50
9279C2: Rozetta-----	Slight		Moderate Slope	0.50	Moderately suited Low strength Slope	0.50 0.50
9279D3: Rozetta-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
9962D3: Sylvan-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Moderate Slope	0.50	Severe Slope	0.95	Poorly suited Slope Low strength	1.00 0.50

Table 12c.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
8D3: Hickory-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
8F: Hickory-----	Well suited		Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
8F2: Hickory-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
8G: Hickory-----	Moderately suited Slope Stickiness	0.50 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
16A: Rushville-----	Well suited		Well suited		Moderately suited Low strength	0.50
17A: Keomah-----	Well suited		Well suited		Moderately suited Low strength	0.50
45A: Denny-----	Well suited		Well suited		Moderately suited Low strength	0.50
46A: Herrick-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
47A: Virден-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
50A: Virден-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
51A: Muscatune-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61A: Atterberry-----	Well suited		Well suited		Moderately suited Low strength	0.50
68A: Sable-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
75C: Drury-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
79B: Menfro-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
79C2: Menfro-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
79D2: Menfro-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
79D3: Menfro-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
79E2: Menfro-----	Moderately suited Stickiness	0.50	Poorly suited Slope Stickiness	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
79F: Menfro-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
86B: Osco-----	Well suited		Well suited		Moderately suited Low strength	0.50
86C2: Osco-----	Moderately suited Stickiness	0.50	Moderately suited Slope	0.50	Moderately suited Low strength	0.50
112A: Cowden-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
113A: Oconee-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
113B: Oconee-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119C2: Elco-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
119C3: Elco-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
119D2: Elco-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
119D3: Elco-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
127B: Harrison-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
259C2: Assumption-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
267A: Caseyville-----	Well suited		Well suited		Moderately suited Low strength	0.50
267B: Caseyville-----	Well suited		Well suited		Moderately suited Low strength	0.50
278A: Stronghurst-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
279B: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
279C2: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
279C3: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
279D2: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279D3: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280B: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
280C: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280C2: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280C3: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280D: Fayette-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
280D2: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280D3: Fayette-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
280E2: Fayette-----	Moderately suited Stickiness	0.50	Poorly suited Slope Stickiness	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
280F: Fayette-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
434B: Ridgway-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
438B: Aviston-----	Well suited		Well suited		Moderately suited Low strength	0.50
477B: Winfield-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477B3: Winfield-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
477C2: Winfield-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
477C3: Winfield-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
477D2: Winfield-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
477D3: Winfield-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
515B2: Bunkum-----	Well suited		Well suited		Moderately suited Low strength	0.50
515C2: Bunkum-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
515C3: Bunkum-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
538B2: Emery-----	Well suited		Well suited		Moderately suited Low strength	0.50
538C2: Emery-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
582B: Homen-----	Well suited		Well suited		Moderately suited Low strength	0.50
675B: Greenbush-----	Well suited		Well suited		Moderately suited Low strength	0.50
675C2: Greenbush-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
701F: Menfro-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
701F: Hickory-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
802E: Orthents-----	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
833F: Menfro-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Goss-----	Poorly suited Stickiness	0.75	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
833F2: Menfro-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Goss-----	Poorly suited Stickiness	0.75	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
833G: Goss-----	Poorly suited Stickiness Slope	0.75 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Menfro-----	Moderately suited Slope Stickiness	0.50 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
836G: Hamburg-----	Moderately suited Slope	0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Lacrescent-----	Moderately suited Slope	0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Moderately suited Slope	0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
838F: Fayette-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838F: Goss-----	Poorly suited Stickiness	0.75	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
838F2: Fayette-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Goss-----	Poorly suited Stickiness	0.75	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
838G: Goss-----	Poorly suited Stickiness Slope	0.75 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Fayette-----	Moderately suited Slope Stickiness	0.50 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Virden-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
Fosterburg-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
894A: Herrick-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
Biddle-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
Piasa-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength	0.50
897C2: Bunkum-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
Atlas-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness Slope	0.75 0.50	Moderately suited Low strength	0.50
962D2: Sylvan-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
Bold-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D3:						
Sylvan-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
Bold-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50
962E2:						
Sylvan-----	Moderately suited Stickiness	0.50	Poorly suited Slope Stickiness	0.75 0.50	Moderately suited Low strength Slope	0.50 0.50
Bold-----	Well suited		Poorly suited Slope	0.75	Moderately suited Low strength Slope	0.50 0.50
962F:						
Sylvan-----	Moderately suited Stickiness	0.50	Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
Bold-----	Well suited		Generally unsuited Slope	1.00	Moderately suited Low strength Slope	0.50 0.50
962G:						
Sylvan-----	Moderately suited Slope Stickiness	0.50 0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
Bold-----	Moderately suited Slope	0.50	Generally unsuited Slope	1.00	Poorly suited Slope Low strength	1.00 0.50
993A:						
Cowden-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
Piasa-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength	0.50
3070A:						
Beaucoup-----	Well suited		Well suited		Moderately suited Low strength	0.50
3070L:						
Beaucoup-----	Well suited		Well suited		Moderately suited Low strength	0.50
3071L:						
Darwin-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength Stickiness	0.50 0.50
3074A:						
Radford-----	Well suited		Well suited		Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3077A: Huntsville-----	Well suited		Well suited		Moderately suited Low strength	0.50
3107A: Sawmill-----	Well suited		Well suited		Moderately suited Low strength	0.50
3288A: Petrolia-----	Well suited		Well suited		Moderately suited Low strength	0.50
3333A: Wakeland-----	Well suited		Well suited		Moderately suited Low strength	0.50
3336A: Wilbur-----	Well suited		Well suited		Moderately suited Low strength	0.50
3451A: Lawson-----	Well suited		Well suited		Moderately suited Low strength	0.50
3475A: Elsah-----	Well suited		Moderately suited Rock fragments	0.50	Well suited	
3634A: Blyton-----	Well suited		Well suited		Moderately suited Low strength	0.50
3641L: Quiver-----	Poorly suited Depth to saturated zone	0.75	Poorly suited Depth to saturated zone	0.75	Poorly suited Depth to saturated zone Low strength	1.00 0.50
7037B: Worthen-----	Well suited		Well suited		Moderately suited Low strength	0.50
7075B: Drury-----	Well suited		Well suited		Moderately suited Low strength	0.50
7081A: Littleton-----	Well suited		Well suited		Moderately suited Low strength	0.50
7242A: Kendall-----	Well suited		Well suited		Moderately suited Low strength	0.50
7338B2: Hurst-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength	0.50
7432A: Geff-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7434B: Ridgway-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
7457A: Booker-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength Stickiness	0.50 0.50
8028A: Jules-----	Well suited		Well suited		Moderately suited Low strength	0.50
8070A: Beaucoup-----	Well suited		Well suited		Moderately suited Low strength	0.50
8071A: Darwin-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength Stickiness	0.50 0.50
8180A: Dupo-----	Well suited		Well suited		Moderately suited Low strength	0.50
8248A: McFain-----	Poorly suited Stickiness	0.75	Poorly suited Stickiness	0.75	Moderately suited Low strength Stickiness	0.50 0.50
8284A: Tice-----	Well suited		Well suited		Moderately suited Low strength	0.50
9278A: Stronghurst-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
9279B: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Low strength	0.50
9279C2: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
9279D3: Rozetta-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50
9962D3: Sylvan-----	Moderately suited Stickiness	0.50	Moderately suited Slope Stickiness	0.50 0.50	Moderately suited Low strength	0.50

Table 12c.--Forestland Management--Continued

Map symbol and soil name	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9962D3: Bold-----	Well suited		Moderately suited Slope	0.50	Moderately suited Low strength	0.50

Table 12d.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Well suited		Well suited	
8D3: Hickory-----	Well suited		Well suited	
8F: Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
8F2: Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
8G: Hickory-----	Generally unsuited Slope	1.00	Generally unsuited Slope	1.00
16A: Rushville-----	Well suited		Well suited	
17A: Keomah-----	Well suited		Well suited	
45A: Denny-----	Well suited		Well suited	
46A: Herrick-----	Well suited		Well suited	
47A: Virden-----	Well suited		Well suited	
50A: Virden-----	Well suited		Well suited	
51A: Muscatune-----	Well suited		Well suited	
61A: Atterberry-----	Well suited		Well suited	
68A: Sable-----	Well suited		Well suited	
75C: Drury-----	Well suited		Well suited	
79B: Menfro-----	Well suited		Well suited	
79C2: Menfro-----	Well suited		Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
79D2: Menfro-----	Well suited		Well suited	
79D3: Menfro-----	Well suited		Well suited	
79E2: Menfro-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
79F: Menfro-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
86B: Osco-----	Well suited		Well suited	
86C2: Osco-----	Well suited		Well suited	
112A: Cowden-----	Well suited		Well suited	
113A: Oconee-----	Well suited		Well suited	
113B: Oconee-----	Well suited		Well suited	
119C2: Elco-----	Well suited		Well suited	
119C3: Elco-----	Well suited		Well suited	
119D2: Elco-----	Well suited		Well suited	
119D3: Elco-----	Well suited		Well suited	
127B: Harrison-----	Well suited		Well suited	
259C2: Assumption-----	Well suited		Well suited	
267A: Caseyville-----	Well suited		Well suited	
267B: Caseyville-----	Well suited		Well suited	
278A: Stronghurst-----	Well suited		Well suited	
279B: Rozetta-----	Well suited		Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
279C2: Rozetta-----	Well suited		Well suited	
279C3: Rozetta-----	Well suited		Well suited	
279D2: Rozetta-----	Well suited		Well suited	
279D3: Rozetta-----	Well suited		Well suited	
280B: Fayette-----	Well suited		Well suited	
280C: Fayette-----	Well suited		Well suited	
280C2: Fayette-----	Well suited		Well suited	
280C3: Fayette-----	Well suited		Well suited	
280D: Fayette-----	Well suited		Well suited	
280D2: Fayette-----	Well suited		Well suited	
280D3: Fayette-----	Well suited		Well suited	
280E2: Fayette-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
280F: Fayette-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
434B: Ridgway-----	Well suited		Well suited	
438B: Aviston-----	Well suited		Well suited	
477B: Winfield-----	Well suited		Well suited	
477B3: Winfield-----	Well suited		Well suited	
477C2: Winfield-----	Well suited		Well suited	
477C3: Winfield-----	Well suited		Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
477D2: Winfield-----	Well suited		Well suited	
477D3: Winfield-----	Well suited		Well suited	
515B2: Bunkum-----	Well suited		Well suited	
515C2: Bunkum-----	Well suited		Well suited	
515C3: Bunkum-----	Well suited		Well suited	
538B2: Emery-----	Well suited		Well suited	
538C2: Emery-----	Well suited		Well suited	
582B: Homen-----	Well suited		Well suited	
675B: Greenbush-----	Well suited		Well suited	
675C2: Greenbush-----	Well suited		Well suited	
701F: Menfro-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Hickory-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
802E: Orthents-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
833F: Menfro-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Goss-----	Poorly suited Slope Stickiness	0.50 0.50	Poorly suited Slope	0.50
833F2: Menfro-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Goss-----	Poorly suited Slope Stickiness	0.50 0.50	Poorly suited Slope	0.50

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
833G:				
Goss-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
	Stickiness	0.50		
Menfro-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
836G:				
Hamburg-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
Lacrescent-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
837G:				
Rock outcrop, limestone-----	Not rated		Not rated	
Lacrescent-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
838F:				
Fayette-----	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Goss-----	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness	0.50		
838F2:				
Fayette-----	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
Goss-----	Poorly suited		Poorly suited	
	Slope	0.50	Slope	0.50
	Stickiness	0.50		
838G:				
Goss-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
	Stickiness	0.50		
Fayette-----	Generally unsuited		Generally unsuited	
	Slope	1.00	Slope	1.00
864:				
Pits, quarries-----	Not rated		Not rated	
885A:				
Virden-----	Well suited		Well suited	
Fosterburg-----	Well suited		Well suited	
894A:				
Herrick-----	Well suited		Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
894A:				
Biddle-----	Well suited		Well suited	
Piasa-----	Poorly suited Stickiness	0.50	Well suited	
897C2:				
Bunkum-----	Well suited		Well suited	
Atlas-----	Poorly suited Stickiness	0.50	Well suited	
962D2:				
Sylvan-----	Well suited		Well suited	
Bold-----	Well suited		Well suited	
962D3:				
Sylvan-----	Well suited		Well suited	
Bold-----	Well suited		Well suited	
962E2:				
Sylvan-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bold-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
962F:				
Sylvan-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bold-----	Poorly suited Slope	0.50	Poorly suited Slope	0.50
962G:				
Sylvan-----	Generally unsuited Slope	1.00	Generally unsuited Slope	1.00
Bold-----	Generally unsuited Slope	1.00	Generally unsuited Slope	1.00
993A:				
Cowden-----	Well suited		Well suited	
Piasa-----	Poorly suited Stickiness	0.50	Well suited	
3070A:				
Beaucoup-----	Well suited		Well suited	
3070L:				
Beaucoup-----	Well suited		Well suited	
3071L:				
Darwin-----	Poorly suited Stickiness	0.50	Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3074A: Radford-----	Well suited		Well suited	
3077A: Huntsville-----	Well suited		Well suited	
3107A: Sawmill-----	Well suited		Well suited	
3288A: Petrolia-----	Well suited		Well suited	
3333A: Wakeland-----	Well suited		Well suited	
3336A: Wilbur-----	Well suited		Well suited	
3451A: Lawson-----	Well suited		Well suited	
3475A: Elsah-----	Well suited		Well suited	
3634A: Blyton-----	Well suited		Well suited	
3641L: Quiver-----	Generally unsuited Depth to saturated zone	0.75	Generally unsuited Depth to saturated zone	1.00
7037B: Worthen-----	Well suited		Well suited	
7075B: Drury-----	Well suited		Well suited	
7081A: Littleton-----	Well suited		Well suited	
7242A: Kendall-----	Well suited		Well suited	
7338B2: Hurst-----	Poorly suited Stickiness	0.50	Well suited	
7432A: Geff-----	Well suited		Well suited	
7434B: Ridgway-----	Well suited		Well suited	
7457A: Booker-----	Poorly suited Stickiness	0.50	Well suited	
8028A: Jules-----	Well suited		Well suited	

Table 12d.--Forestland Management--Continued

Map symbol and soil name	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8070A: Beaucoup-----	Well suited		Well suited	
8071A: Darwin-----	Poorly suited Stickiness	0.50	Well suited	
8180A: Dupo-----	Well suited		Well suited	
8248A: McFain-----	Poorly suited Stickiness	0.50	Well suited	
8284A: Tice-----	Well suited		Well suited	
9278A: Stronghurst-----	Well suited		Well suited	
9279B: Rozetta-----	Well suited		Well suited	
9279C2: Rozetta-----	Well suited		Well suited	
9279D3: Rozetta-----	Well suited		Well suited	
9962D3: Sylvan-----	Well suited		Well suited	
Bold-----	Well suited		Well suited	

Table 12e.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
8D2: Hickory-----	Low	
8D3: Hickory-----	Low	
8F: Hickory-----	Low	
8F2: Hickory-----	Low	
8G: Hickory-----	Low	
16A: Rushville-----	High Wetness	1.00
17A: Keomah-----	High Wetness	1.00
45A: Denny-----	High Wetness	1.00
46A: Herrick-----	Low	
47A: Virden-----	High Wetness	1.00
50A: Virden-----	High Wetness	1.00
51A: Muscatune-----	Low	
61A: Atterberry-----	High Wetness	1.00
68A: Sable-----	High Wetness	1.00

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
75C: Drury-----	Low	
79B: Menfro-----	Low	
79C2: Menfro-----	Low	
79D2: Menfro-----	Low	
79D3: Menfro-----	Low	
79E2: Menfro-----	Low	
79F: Menfro-----	Low	
86B: Osco-----	Low	
86C2: Osco-----	Low	
112A: Cowden-----	High Wetness	1.00
113A: Oconee-----	High Wetness	1.00
113B: Oconee-----	High Wetness	1.00
119C2: Elco-----	Low	
119C3: Elco-----	Low	
119D2: Elco-----	Low	
119D3: Elco-----	Low	
127B: Harrison-----	Low	
259C2: Assumption-----	Low	
267A: Caseyville-----	High Wetness	1.00

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
267B: Caseyville-----	High Wetness	1.00
278A: Stronghurst-----	High Wetness	1.00
279B: Rozetta-----	Low	
279C2: Rozetta-----	Low	
279C3: Rozetta-----	Low	
279D2: Rozetta-----	Low	
279D3: Rozetta-----	Low	
280B: Fayette-----	Low	
280C: Fayette-----	Low	
280C2: Fayette-----	Low	
280C3: Fayette-----	Low	
280D: Fayette-----	Low	
280D2: Fayette-----	Low	
280D3: Fayette-----	Low	
280E2: Fayette-----	Low	
280F: Fayette-----	Low	
434B: Ridgway-----	Low	
438B: Aviston-----	Low	
477B: Winfield-----	Low	
477B3: Winfield-----	Low	

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
477C2: Winfield-----	Low	
477C3: Winfield-----	Low	
477D2: Winfield-----	Low	
477D3: Winfield-----	Low	
515B2: Bunkum-----	Low	
515C2: Bunkum-----	Low	
515C3: Bunkum-----	Low	
538B2: Emery-----	High Wetness	1.00
538C2: Emery-----	High Wetness	1.00
582B: Homen-----	Low	
675B: Greenbush-----	Low	
675C2: Greenbush-----	Low	
701F: Menfro-----	Low	
Hickory-----	Low	
802E: Orthents-----	Low	
833F: Menfro-----	Low	
Goss-----	Low	
833F2: Menfro-----	Low	
Goss-----	Low	
833G: Goss-----	Low	
Menfro-----	Low	

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
836G:		
Hamburg-----	Moderate	
	Lime	0.50
	Soil reaction	0.50
Lacrescent-----	Low	
837G:		
Rock outcrop, limestone-----	Not rated	
Lacrescent-----	Low	
838F:		
Fayette-----	Low	
Goss-----	Low	
838F2:		
Fayette-----	Low	
Goss-----	Low	
838G:		
Goss-----	Low	
Fayette-----	Low	
864:		
Pits, quarries-----	Not rated	
885A:		
Virden-----	High	
	Wetness	1.00
Fosterburg-----	High	
	Wetness	1.00
894A:		
Herrick-----	Low	
Biddle-----	Low	
Piasa-----	High	
	Wetness	1.00
897C2:		
Bunkum-----	Low	
Atlas-----	High	
	Wetness	1.00
962D2:		
Sylvan-----	Low	
Bold-----	Moderate	
	Lime	0.50
	Soil reaction	0.50

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
962D3:		
Sylvan-----	Low	
Bold-----	Moderate	
	Lime	0.50
	Soil reaction	0.50
962E2:		
Sylvan-----	Low	
Bold-----	Moderate	
	Lime	0.50
	Soil reaction	0.50
962F:		
Sylvan-----	Low	
Bold-----	Moderate	
	Lime	0.50
	Soil reaction	0.50
962G:		
Sylvan-----	Low	
Bold-----	Moderate	
	Lime	0.50
	Soil reaction	0.50
993A:		
Cowden-----	High	
	Wetness	1.00
Piasa-----	High	
	Wetness	1.00
3070A:		
Beaucoup-----	High	
	Wetness	1.00
3070L:		
Beaucoup-----	High	
	Wetness	1.00
3071L:		
Darwin-----	High	
	Wetness	1.00
3074A:		
Radford-----	Low	
3077A:		
Huntsville-----	Low	
3107A:		
Sawmill-----	High	
	Wetness	1.00
3288A:		
Petrolia-----	High	
	Wetness	1.00

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
3333A: Wakeland-----	High Wetness	1.00
3336A: Wilbur-----	Low	
3451A: Lawson-----	Low	
3475A: Elsah-----	Low	
3634A: Blyton-----	Low	
3641L: Quiver-----	High Wetness	1.00
7037B: Worthen-----	Low	
7075B: Drury-----	Low	
7081A: Littleton-----	Low	
7242A: Kendall-----	High Wetness	1.00
7338B2: Hurst-----	High Wetness	1.00
7432A: Geff-----	Low	
7434B: Ridgway-----	Low	
7457A: Booker-----	High Wetness	1.00
8028A: Jules-----	Moderate Lime Soil reaction	0.50 0.50
8070A: Beaucoup-----	High Wetness	1.00
8071A: Darwin-----	High Wetness	1.00

Table 12e.--Forestland Management--Continued

Map symbol and soil name	Potential for seedling mortality	
	Rating class and limiting features	Value
8180A: Dupo-----	Low	
8248A: McFain-----	High Wetness	1.00
8284A: Tice-----	Low	
9278A: Stronghurst-----	High Wetness	1.00
9279B: Rozetta-----	Low	
9279C2: Rozetta-----	Low	
9279D3: Rozetta-----	Low	
9962D3: Sylvan-----	Low	
Bold-----	Moderate Lime Soil reaction	0.50 0.50

Table 13a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
8D3: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
8F: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
8F2: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
16A: Rushville-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 1.00
17A: Keomah-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.96	Somewhat limited Restricted permeability Depth to saturated zone	0.96 0.94	Very limited Depth to saturated zone Restricted permeability	1.00 0.96
45A: Denny-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96
46A: Herrick-----	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.75 0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.98 0.21

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Viriden-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
50A: Viriden-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
68A: Sable-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
75C: Drury-----	Not limited		Not limited		Very limited Slope	1.00
79B: Menfro-----	Not limited		Not limited		Somewhat limited Slope	0.28
79C2: Menfro-----	Not limited		Not limited		Very limited Slope	1.00
79D2: Menfro-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
79D3: Menfro-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
79E2: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
79F: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86B: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86C2: Osco-----	Not limited		Not limited		Very limited Slope	1.00
112A: Cowden-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Ponding Depth to saturated zone Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96
113A: Oconee-----	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Somewhat limited Restricted permeability Depth to saturated zone	0.96  0.94	Very limited Depth to saturated zone Restricted permeability	1.00  0.96
113B: Oconee-----	Very limited Depth to saturated zone Restricted permeability	1.00  0.96	Somewhat limited Restricted permeability Depth to saturated zone	0.96  0.94	Very limited Depth to saturated zone Restricted permeability Slope	1.00  0.96  0.28
119C2: Elco-----	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Very limited Slope Restricted permeability	1.00 0.43
119C3: Elco-----	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Very limited Slope Restricted permeability	1.00 0.43
119D2: Elco-----	Somewhat limited Slope Restricted permeability	0.96  0.43	Somewhat limited Slope Restricted permeability	0.96  0.43	Very limited Slope Restricted permeability	1.00 0.43
119D3: Elco-----	Somewhat limited Slope Restricted permeability	0.96  0.43	Somewhat limited Slope Restricted permeability	0.96  0.43	Very limited Slope Restricted permeability	1.00 0.43
127B: Harrison-----	Not limited		Not limited		Somewhat limited Slope	0.28

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
259C2: Assumption-----	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Very limited Slope Restricted permeability	1.00 0.43
267A: Caseyville-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
267B: Caseyville-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 0.28
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
279C2: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
279C3: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
279D2: Rozetta-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
279D3: Rozetta-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280B: Fayette-----	Not limited		Not limited		Somewhat limited Slope	0.28
280C: Fayette-----	Not limited		Not limited		Very limited Slope	1.00
280C2: Fayette-----	Not limited		Not limited		Very limited Slope	1.00
280C3: Fayette-----	Not limited		Not limited		Very limited Slope	1.00
280D: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D2: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280D3: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280E2: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
280F: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
434B: Ridgway-----	Not limited		Not limited		Somewhat limited Slope	0.28
438B: Aviston-----	Not limited		Not limited		Somewhat limited Slope	0.28
477B: Winfield-----	Not limited		Not limited		Somewhat limited Slope	0.28
477B3: Winfield-----	Not limited		Not limited		Somewhat limited Slope	0.28
477C2: Winfield-----	Not limited		Not limited		Very limited Slope	1.00
477C3: Winfield-----	Not limited		Not limited		Very limited Slope	1.00
477D2: Winfield-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
477D3: Winfield-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
515B2: Bunkum-----	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.75  0.21	Somewhat limited Depth to saturated zone Slope Restricted permeability	0.98  0.28 0.21

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C2: Bunkum-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Very limited Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Depth to saturated zone Restricted permeability	0.98 0.21
515C3: Bunkum-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Very limited Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Depth to saturated zone Restricted permeability	0.98 0.21
538B2: Emery-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 0.28
538C2: Emery-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 1.00
582B: Homen-----	Somewhat limited Restricted permeability	0.21	Somewhat limited Restricted permeability	0.21	Somewhat limited Slope Restricted permeability	0.28 0.21
675B: Greenbush-----	Not limited		Not limited		Somewhat limited Slope	0.28
675C2: Greenbush-----	Not limited		Not limited		Very limited Slope	1.00
701F: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
802E: Orthents-----	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21	Very limited Slope Restricted permeability	1.00 0.21
833F: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833F: Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
833F2: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
833G: Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
836G: Hamburg-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Content of large stones Gravel content	1.00  0.84 0.02
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Content of large stones Gravel content	1.00  0.84 0.02
838F: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
838F2: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838F2: Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
838G: Goss-----	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content	1.00  0.04	Very limited Slope Gravel content Content of large stones	1.00  1.00 0.01
Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Viriden-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.21	Very limited Ponding Depth to saturated zone Restricted permeability	1.00  1.00 0.21	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.21
Fosterburg-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96	Very limited Ponding Depth to saturated zone Restricted permeability	1.00  1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00  1.00 0.96
894A: Herrick-----	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.75  0.21	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.21
Biddle-----	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.96	Somewhat limited Restricted permeability Depth to saturated zone	0.96  0.75	Somewhat limited Depth to saturated zone Restricted permeability	0.98  0.96
Piasa-----	Very limited Depth to saturated zone Sodium content Ponding Restricted permeability	1.00  1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Sodium content Restricted permeability	1.00  1.00 1.00 1.00	Very limited Depth to saturated zone Sodium content Ponding Restricted permeability	1.00  1.00 1.00 1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
897C2:						
Bunkum-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Very limited Slope	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Depth to saturated zone Restricted permeability	0.98 0.21
Atlas-----	Very limited Depth to saturated zone	1.00	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
	Restricted permeability	1.00	Depth to saturated zone	0.94	Restricted permeability Slope	1.00 1.00
962D2:						
Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
962D3:						
Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
962E2:						
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962F:						
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962G:						
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
993A:						
Cowden-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding Restricted permeability	1.00 0.96	Restricted permeability	0.96	Ponding Restricted permeability	1.00 0.96

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993A: Piasa-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Sodium content	1.00	Depth to saturated zone	1.00	Sodium content	1.00
	Ponding	1.00	Sodium content	1.00	Ponding	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
3070A: Beaucoup-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
3070L: Beaucoup-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
3071L: Darwin-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Restricted permeability	1.00	Ponding	1.00
	Restricted permeability	1.00	Too clayey	1.00	Restricted permeability	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
3074A: Radford-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3077A: Huntsville-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3107A: Sawmill-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3288A: Petrolia-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
3333A: Wakeland-----	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3336A: Wilbur-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.43	Flooding	1.00
	Depth to saturated zone	0.77	Flooding	0.40	Depth to saturated zone	0.77
3451A: Lawson-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Depth to saturated zone	0.75	Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3475A: Elsah-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Gravel content	1.00
	Gravel content	0.17	Gravel content	0.17	Flooding	1.00
					Content of large stones	0.26
3634A: Blyton-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.40	Flooding	1.00
3641L: Quiver-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
7037B: Worthen-----	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Slope	0.28
7075B: Drury-----	Very limited		Not limited		Somewhat limited	
	Flooding	1.00			Slope	0.28
7081A: Littleton-----	Very limited		Somewhat limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75	Depth to saturated zone	0.98
	Depth to saturated zone	0.98				

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7242A: Kendall-----	Very limited Depth to saturated zone Flooding	1.00  1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
7338B2: Hurst-----	Very limited Depth to saturated zone Flooding Restricted permeability	1.00  1.00 1.00	Very limited Restricted permeability Depth to saturated zone	1.00  0.94	Very limited Depth to saturated zone Restricted permeability Slope	1.00  1.00  0.28
7432A: Geff-----	Very limited Flooding Depth to saturated zone	1.00  0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
7434B: Ridgway-----	Very limited Flooding	1.00	Not limited		Somewhat limited Slope	0.28
7457A: Booker-----	Very limited Depth to saturated zone Flooding Ponding Too clayey Restricted permeability	1.00  1.00 1.00 1.00 1.00	Very limited Too clayey Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding Restricted permeability	1.00  1.00 1.00 1.00
8028A: Jules-----	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
8070A: Beaucoup-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00  1.00 1.00 0.21	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Flooding Restricted permeability	1.00  1.00 0.60 0.21
8071A: Darwin-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability Too clayey	1.00  1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Restricted permeability Too clayey	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Restricted permeability Too clayey Flooding	1.00  1.00 1.00 1.00 1.00 0.60

Table 13a.--Recreational Development--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8180A: Dupo-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 0.98 0.96	Somewhat limited Restricted permeability Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Restricted permeability Flooding	0.98 0.96 0.60
8248A: McFain-----	Very limited Depth to saturated zone Flooding Ponding Too clayey Restricted permeability	1.00 1.00 1.00 1.00 0.96	Very limited Ponding Depth to saturated zone Too clayey Restricted permeability	1.00 1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Too clayey Restricted permeability Flooding	1.00 1.00 1.00 0.96 0.60
8284A: Tice-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
9278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
9279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
9279C2: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
9279D3: Rozetta-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
9962D3: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00

Table 13b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
8D3: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
8F: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.02	Very limited Slope	1.00
8F2: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
16A: Rushville-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
17A: Keomah-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
45A: Denny-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
46A: Herrick-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
47A: Viriden-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
50A: Viriden-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
61A: Atterberry-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
68A: Sable-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
75C: Drury-----	Not limited		Not limited		Not limited	
79B: Menfro-----	Not limited		Not limited		Not limited	
79C2: Menfro-----	Not limited		Not limited		Not limited	
79D2: Menfro-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
79D3: Menfro-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
79E2: Menfro-----	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
79F: Menfro-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
86B: Osco-----	Not limited		Not limited		Not limited	
86C2: Osco-----	Not limited		Not limited		Not limited	
112A: Cowden-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
113A: Oconee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113B: Oconee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
119C2: Elco-----	Not limited		Not limited		Not limited	
119C3: Elco-----	Not limited		Not limited		Not limited	
119D2: Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
119D3: Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
127B: Harrison-----	Not limited		Not limited		Not limited	
259C2: Assumption-----	Not limited		Not limited		Not limited	
267A: Caseyville-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
267B: Caseyville-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
278A: Stronghurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
279B: Rozetta-----	Not limited		Not limited		Not limited	
279C2: Rozetta-----	Not limited		Not limited		Not limited	
279C3: Rozetta-----	Not limited		Not limited		Not limited	
279D2: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
279D3: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280B: Fayette-----	Not limited		Not limited		Not limited	

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280C: Fayette-----	Not limited		Not limited		Not limited	
280C2: Fayette-----	Not limited		Not limited		Not limited	
280C3: Fayette-----	Not limited		Not limited		Not limited	
280D: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280D2: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280D3: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
280E2: Fayette-----	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
280F: Fayette-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.02	Very limited Slope	1.00
434B: Ridgway-----	Not limited		Not limited		Not limited	
438B: Aviston-----	Not limited		Not limited		Not limited	
477B: Winfield-----	Not limited		Not limited		Not limited	
477B3: Winfield-----	Not limited		Not limited		Not limited	
477C2: Winfield-----	Not limited		Not limited		Not limited	
477C3: Winfield-----	Not limited		Not limited		Not limited	
477D2: Winfield-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
477D3: Winfield-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
515B2: Bunkum-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C2: Bunkum-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
515C3: Bunkum-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
538B2: Emery-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
538C2: Emery-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
582B: Homen-----	Not limited		Not limited		Not limited	
675B: Greenbush-----	Not limited		Not limited		Not limited	
675C2: Greenbush-----	Not limited		Not limited		Not limited	
701F: Menfro-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope	1.00
802E: Orthents-----	Very limited Water erosion Slope	1.00 0.68	Very limited Water erosion	1.00	Very limited Slope	1.00
833F: Menfro-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
Goss-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
833F2: Menfro-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833F2: Goss-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
833G: Goss-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
836G: Hamburg-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Content of large stones	1.00 0.84
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Content of large stones	1.00 0.84
838F: Fayette-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
Goss-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
838F2: Fayette-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
Goss-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838G: Goss-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Virden-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Fosterburg-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
894A: Herrick-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Biddle-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Piasa-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Sodium content Depth to saturated zone	1.00 1.00 1.00
897C2: Bunkum-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
Atlas-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
962D2: Sylvan-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Bold-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
962D3: Sylvan-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D3: Bold-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
962E2: Sylvan-----	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
Bold-----	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
962F: Sylvan-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
Bold-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.04	Very limited Slope	1.00
962G: Sylvan-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Bold-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
993A: Cowden-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
Piasa-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Sodium content Depth to saturated zone	1.00 1.00 1.00
3070A: Beaucoup-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3070L: Beaucoup-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3071L: Darwin-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Too clayey	1.00
3074A: Radford-----	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3077A: Huntsville-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3107A: Sawmill-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3288A: Petrolia-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3333A: Wakeland-----	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.94
3336A: Wilbur-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
	Depth to saturated zone	0.08	Depth to saturated zone	0.08	Depth to saturated zone	0.43
3451A: Lawson-----	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3475A: Elsah-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
					Content of large stones	0.26
					Gravel content	0.17
					Droughty	0.01
3634A: Blyton-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3641L: Quiver-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Flooding	1.00 1.00
	Ponding Flooding	1.00 0.40	Ponding Flooding	1.00 0.40	Depth to saturated zone	1.00
7037B: Worthen-----	Not limited		Not limited		Not limited	
7075B: Drury-----	Not limited		Not limited		Not limited	
7081A: Littleton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
7242A: Kendall-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
7338B2: Hurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
7432A: Geff-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
7434B: Ridgway-----	Not limited		Not limited		Not limited	
7457A: Booker-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Ponding	1.00 1.00
	Too clayey Ponding	1.00 1.00	Too clayey Ponding	1.00 1.00	Depth to saturated zone	1.00
8028A: Jules-----	Not limited		Not limited		Somewhat limited Flooding	0.60
8070A: Beaucoup-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
	Ponding	1.00	Ponding	1.00	Flooding	0.60
8071A: Darwin-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
	Ponding Too clayey	1.00 1.00	Ponding Too clayey	1.00 1.00	Too clayey Flooding	1.00 0.60

Table 13b.--Recreational Development--Continued

Map symbol and soil name	Paths and trails		Off-road motorcycle trails		Golf fairways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8180A: Dupo-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
8248A: McFain-----	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Flooding	1.00 1.00 1.00 0.60
8284A: Tice-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
9278A: Stronghurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
9279B: Rozetta-----	Not limited		Not limited		Not limited	
9279C2: Rozetta-----	Not limited		Not limited		Not limited	
9279D3: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
9962D3: Sylvan-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Bold-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96

Table 14.--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 herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
8D2: Hickory-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8D3: Hickory-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8F: Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8F2: Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8G: Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
16A: Rushville-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
17A: Keomah-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
45A: Denny-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
46A: Herrick-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
47A: Virden-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
50A: Virden-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
51A: Muscatune-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
61A: Atterberry-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
68A: Sable-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
75C: Drury-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
79B: Menfro-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
79C2: Menfro-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
79D2: Menfro-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
79D3: Menfro-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
79E2: Menfro-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
79F: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
86B: Osco-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
86C2: Osco-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
112A: Cowden-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
113A: Oconee-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
113B: Oconee-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
119C2: Elco-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
119C3: Elco-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
119D2: Elco-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
119D3: Elco-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
127B: Harrison-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
259C2: Assumption-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
267A: Caseyville-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
267B: Caseyville-----	Fair	Good	Good	Good	Good	Fair	Very poor.	Good	Good	Poor.
278A: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
279B: Rozetta-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279C2: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279C3: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279D2: Rozetta-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
279D3: Rozetta-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280B: Fayette-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280C: Fayette-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280C2: Fayette-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280C3: Fayette-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280D: Fayette-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280D2: Fayette-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280D3: Fayette-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
280E2: Fayette-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
280F: Fayette-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
434B: Ridgway-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
438B: Aviston-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477B: Winfield-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477B3: Winfield-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477C2: Winfield-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477C3: Winfield-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
477D2: Winfield-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
477D3: Winfield-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
515B2: Bunkum-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
515C2: Bunkum-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
515C3: Bunkum-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
538B2: Emery-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
538C2: Emery-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
582B: Homen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
675B: Greenbush-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
675C2: Greenbush-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
701F: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
802E. Orthents										
833F: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Goss-----	Very poor.	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
833F2: Menfro-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Goss-----	Very poor.	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
833G: Goss-----	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Good	Very poor.
Menfro-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
836G: Hamburg-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lacrescent-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
837G: Rock outcrop, limestone.										
Lacrescent-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
838F: Fayette-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Goss-----	Very poor.	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
838F2:										
Fayette-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Goss-----	Very poor.	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
838G:										
Goss-----	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Good	Very poor.
Fayette-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
864. Pits, quarries										
885A:										
Virden-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Fosterburg-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
894A:										
Herrick-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Biddle-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Piasa-----	Poor	Fair	Very poor.	Fair	Fair	Good	Good	Poor	Fair	Good.
897C2:										
Bunkum-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Atlas-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
962D2:										
Sylvan-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bold-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
962D3:										
Sylvan-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bold-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
962E2:										
Sylvan-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bold-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
962F:										
Sylvan-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Bold-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
962G:										
Sylvan-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Bold-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
993A:										
Cowden-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Piasa-----	Poor	Fair	Very poor.	Fair	Fair	Good	Good	Poor	Fair	Good.
3070A:										
Beaucoup-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3070L:										
Beaucoup-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3071L:										
Darwin-----	Poor	Fair	Poor	Fair	Fair	Poor	Good	Poor	Fair	Fair.
3074A:										
Radford-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3077A:										
Huntsville-----	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
3107A:										
Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3288A:										
Petrolia-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
3333A:										
Wakeland-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3336A:										
Wilbur-----	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
3451A:										
Lawson-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3475A:										
Elsah-----	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
3634A:										
Blyton-----	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
3641L:										
Quiver-----	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
7037B: Worthen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7075B: Drury-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7081A: Littleton-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7242A: Kendall-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7338B2: Hurst-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7432A: Geff-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7434B: Ridgway-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7457A: Booker-----	Very poor.	Poor	Poor	Poor	Poor	Poor	Good	Poor	Poor	Fair.
8028A: Jules-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8070A: Beaucoup-----	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
8071A: Darwin-----	Poor	Fair	Fair	Poor	Fair	Poor	Good	Fair	Fair	Fair.
8180A: Dupo-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8248A: McFain-----	Fair	Fair	Fair	Poor	Fair	Poor	Good	Fair	Fair	Fair.
8284A: Tice-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
9278A: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
9279B: Rozetta-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
9279C2: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 14.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
9279D3: Rozetta-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
9962D3: Sylvan-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bold-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 15a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Slope Shrink-swell	 0.96 0.50	Somewhat limited Slope Shrink-swell	 0.96 0.50	Very limited Slope Shrink-swell	 1.00 0.50
8D3: Hickory-----	Somewhat limited Slope Shrink-swell	 0.96 0.50	Somewhat limited Slope Shrink-swell	 0.96 0.50	Very limited Slope Shrink-swell	 1.00 0.50
8F: Hickory-----	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
8F2: Hickory-----	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
8G: Hickory-----	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50	Very limited Slope Shrink-swell	 1.00 0.50
16A: Rushville-----	Very limited Ponding Depth to saturated zone Shrink-swell	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	 1.00 1.00 1.00
17A: Keomah-----	Very limited Depth to saturated zone Shrink-swell	 1.00 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Shrink-swell	 1.00 1.00
45A: Denny-----	Very limited Ponding Depth to saturated zone Shrink-swell	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	 1.00 1.00 1.00
46A: Herrick-----	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98	Very limited Depth to saturated zone Shrink-swell	 1.00 1.00	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Virden-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
50A: Virden-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
51A: Muscatune-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
61A: Atterberry-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
68A: Sable-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
75C: Drury-----	Not limited		Not limited		Somewhat limited Slope	0.97
79B: Menfro-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
79C2: Menfro-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
79D2: Menfro-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
79D3: Menfro-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
79E2: Menfro-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79F: Menfro-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
86B: Osco-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
86C2: Osco-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
112A: Cowden-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
113A: Oconee-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
113B: Oconee-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
119C2: Elco-----	Somewhat limited Shrink-swell	0.50	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Somewhat limited Slope Shrink-swell	0.97 0.50
119C3: Elco-----	Somewhat limited Shrink-swell	0.50	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Somewhat limited Slope Shrink-swell	0.97 0.50
119D2: Elco-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.96	Very limited Slope Shrink-swell	1.00 0.50
119D3: Elco-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.96	Very limited Slope Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127B: Harrison-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
259C2: Assumption-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell Slope	1.00 0.97
267A: Caseyville-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
267B: Caseyville-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
278A: Stronghurst-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
279B: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
279C2: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
279C3: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
279D2: Rozetta-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.96 0.50 0.15	Very limited Slope Shrink-swell	1.00 0.50
279D3: Rozetta-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Depth to saturated zone	0.96 0.15	Very limited Slope Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280B: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
280C: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
280C2: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
280C3: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
280D: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
280D2: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
280D3: Fayette-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
280E2: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
280F: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
434B: Ridgway-----	Somewhat limited Shrink-swell	0.73	Not limited		Somewhat limited Shrink-swell	0.73
438B: Aviston-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
477B: Winfield-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477B3: Winfield-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
477C2: Winfield-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
477C3: Winfield-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
477D2: Winfield-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	0.99 0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
477D3: Winfield-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	0.99 0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
515B2: Bunkum-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
515C2: Bunkum-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	0.98 0.97 0.50
515C3: Bunkum-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	0.98 0.97 0.50
538B2: Emery-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
538C2: Emery-----	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone Slope Shrink-swell	1.00  0.97 0.50
582B: Homen-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99  0.50	Somewhat limited Shrink-swell	0.50
675B: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50  0.15	Somewhat limited Shrink-swell	0.50
675C2: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50  0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
701F: Menfro-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
802E: Orthents-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
833F: Menfro-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
Goss-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
833F2: Menfro-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
Goss-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50
833G: Goss-----	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00  0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833G: Menfro-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
836G: Hamburg-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Lacrescent-----	Very limited Slope Content of large stones	1.00 0.20	Very limited Slope Content of large stones	1.00 0.20	Very limited Slope Content of large stones	1.00 0.20
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Slope Content of large stones	1.00 0.20	Very limited Slope Content of large stones	1.00 0.20	Very limited Slope Content of large stones	1.00 0.20
838F: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Goss-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
838F2: Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Goss-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
838G: Goss-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Virden-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
885A: Fosterburg-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
894A: Herrick-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
Biddle-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
Piasa-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
897C2: Bunkum-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	0.98 0.97 0.50
Atlas-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.97
962D2: Sylvan-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope	0.96	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
962D3: Sylvan-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope	0.96	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
962E2: Sylvan-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962F:						
Sylvan-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962G:						
Sylvan-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
993A:						
Cowden-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
Piassa-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
3070A:						
Beaucoup-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
3070L:						
Beaucoup-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
3071L:						
Darwin-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00
3074A:						
Radford-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 0.98

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3077A: Huntsville-----	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.15	Very limited Flooding Shrink-swell	1.00 0.50
3107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
3288A: Petrolia-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
3333A: Wakeland-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
3336A: Wilbur-----	Very limited Flooding Depth to saturated zone	1.00 0.77	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.77
3451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 0.98
3475A: Elsah-----	Very limited Flooding Content of large stones	1.00 0.35	Very limited Flooding Content of large stones	1.00 0.35	Very limited Flooding Content of large stones	1.00 0.35
3634A: Blyton-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding	1.00
3641L: Quiver-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7037B: Worthen-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
7075B: Drury-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
7081A: Littleton-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
7242A: Kendall-----	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
7338B2: Hurst-----	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
7432A: Geff-----	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50
7434B: Ridgway-----	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding	1.00	Very limited Flooding Shrink-swell	1.00 0.50
7457A: Booker-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00
8028A: Jules-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
8070A: Beaucoup-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8071A: Darwin-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 1.00
8180A: Dupo-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98
8248A: McFain-----	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
8284A: Tice-----	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50
9278A: Stronghurst-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
9279B: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
9279C2: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
9279D3: Rozetta-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Depth to saturated zone	0.96 0.15	Very limited Slope Shrink-swell	1.00 0.50
9962D3: Sylvan-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope	0.96	Very limited Slope Shrink-swell	1.00 0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9962D3: Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00

Table 15b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Very limited Low strength Slope Shrink-swell Frost action	 1.00 0.96 0.50 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
8D3: Hickory-----	Very limited Low strength Slope Shrink-swell Frost action	 1.00 0.96 0.50 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
8F: Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
8F2: Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
8G: Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
16A: Rushville-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	 1.00 1.00  0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00
17A: Keomah-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.94	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.94

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
45A: Denny-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	1.00				
46A: Herrick-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
47A: Virden-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	1.00				
50A: Virden-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	1.00				
51A: Muscatune-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Shrink-swell	0.50				
61A: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
	Shrink-swell	0.50				
68A: Sable-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75C: Drury-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
79B: Menfro-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
79C2: Menfro-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
79D2: Menfro-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
79D3: Menfro-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	0.96 0.10	Somewhat limited Slope	0.96
79E2: Menfro-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
79F: Menfro-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
86B: Osco-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
86C2: Osco-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
112A: Cowden-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	 1.00 1.00  0.10	Very limited Ponding Depth to saturated zone	 1.00 1.00  
113A: Oconee-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.94	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.94
113B: Oconee-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.94	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.94
119C2: Elco-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
119C3: Elco-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
119D2: Elco-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	 0.99  0.96 0.10	Somewhat limited Slope	 0.96
119D3: Elco-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	 0.99  0.96 0.10	Somewhat limited Slope	 0.96
127B: Harrison-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
259C2: Assumption-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	0.99 0.10	Not limited	
267A: Caseyville-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.94
267B: Caseyville-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.94
278A: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.94
279B: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279C2: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279C3: Rozetta-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
279D2: Rozetta-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10	Somewhat limited Slope	0.96
279D3: Rozetta-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.96 0.50	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.96 0.15 0.10	Somewhat limited Slope	0.96

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280B: Fayette-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
280C: Fayette-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
280C2: Fayette-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
280C3: Fayette-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
280D: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
280D2: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
280D3: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
280E2: Fayette-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
280F: Fayette-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
434B: Ridgway-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.73	Very limited Cutbanks cave	 1.00	Not limited	
438B: Aviston-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
477B: Winfield-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
477B3: Winfield-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
477C2: Winfield-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
477C3: Winfield-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
477D2: Winfield-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	 0.99  0.96 0.10	Somewhat limited Slope	   0.96
477D3: Winfield-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Depth to saturated zone Slope Cutbanks cave	 0.99  0.96 0.10	Somewhat limited Slope	   0.96
515B2: Bunkum-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	   0.75

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515C2: Bunkum-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
515C3: Bunkum-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
538B2: Emery-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
538C2: Emery-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
582B: Homen-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
675B: Greenbush-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
675C2: Greenbush-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
701F: Menfro-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
701F: Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope	1.00
802E: Orthents-----	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope	1.00
833F: Menfro-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00 0.50	Very limited Slope	1.00
Goss-----	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave Too clayey	1.00 1.00 0.50	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
833F2: Menfro-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00 0.50	Very limited Slope	1.00
Goss-----	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave Too clayey	1.00 1.00 0.50	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
833G: Goss-----	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave Too clayey	1.00 1.00 0.50	Very limited Slope Droughty Gravel content Content of large stones	1.00 0.34 0.04 0.01
Menfro-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00 0.50	Very limited Slope	1.00
836G: Hamburg-----	Very limited Slope Frost action	1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.50	Very limited Slope	1.00

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
836G: Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.84
	Content of large stones	0.20	Content of large stones	0.20		
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Content of large stones	0.84
	Content of large stones	0.20	Content of large stones	0.20		
838F: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				
Goss-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00	Droughty	0.34
	Frost action	0.50	Too clayey	0.50	Gravel content	0.04
					Content of large stones	0.01
838F2: Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Frost action	1.00	Cutbanks cave	0.50		
	Low strength	1.00				
	Shrink-swell	0.50				
Goss-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00	Droughty	0.34
	Frost action	0.50	Too clayey	0.50	Gravel content	0.04
					Content of large stones	0.01
838G: Goss-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Shrink-swell	0.50	Cutbanks cave	1.00	Droughty	0.34
	Frost action	0.50	Too clayey	0.50	Gravel content	0.04
					Content of large stones	0.01
Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
864: Pits, quarries-----	Not rated		Not rated		Not rated	
885A: Virden-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
Fosterburg-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Ponding Depth to saturated zone	1.00 1.00
894A: Herrick-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Biddle-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Piasa-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Cutbanks cave	1.00 1.00 0.10	Very limited Ponding Sodium content Depth to saturated zone	1.00 1.00 1.00
897C2: Bunkum-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Atlas-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.94	Very limited Depth to saturated zone Cutbanks cave Too clayey	1.00 0.10 0.01	Somewhat limited Depth to saturated zone	0.94

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D2: Sylvan-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.50	Somewhat limited Slope	 0.96
Bold-----	Very limited Frost action Slope Low strength	 1.00 0.96 0.78	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
962D3: Sylvan-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Somewhat limited Slope Cutbanks cave	 0.96 0.50	Somewhat limited Slope	 0.96
Bold-----	Very limited Frost action Slope Low strength	 1.00 0.96 0.78	Somewhat limited Slope Cutbanks cave	 0.96 0.10	Somewhat limited Slope	 0.96
962E2: Sylvan-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.50	Very limited Slope	 1.00
Bold-----	Very limited Slope Frost action Low strength	 1.00 1.00 0.78	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00
962F: Sylvan-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.50	Very limited Slope	 1.00
Bold-----	Very limited Slope Frost action Low strength	 1.00 1.00 0.78	Very limited Slope Cutbanks cave	 1.00 0.50	Very limited Slope	 1.00
962G: Sylvan-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.50	Very limited Slope	 1.00
Bold-----	Very limited Slope Frost action Low strength	 1.00 1.00 0.78	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	 1.00

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993A:						
Cowden-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	1.00				
Piasa-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Sodium content	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to saturated zone	1.00
	Low strength	1.00				
	Shrink-swell	1.00				
3070A:						
Beaucoup-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3070L:						
Beaucoup-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3071L:						
Darwin-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Frost action	1.00	Too clayey	0.68	Too clayey	1.00
	Flooding	1.00	Cutbanks cave	0.10		
3074A:						
Radford-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
3077A:						
Huntsville-----	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Flooding	0.80	Flooding	1.00
	Flooding	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A: Sawmill-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3288A: Petrolia-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3333A: Wakeland-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
3336A: Wilbur-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.43
	Depth to saturated zone	0.43	Cutbanks cave	0.10		
3451A: Lawson-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
3475A: Elsah-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Cutbanks cave	1.00	Flooding	1.00
	Frost action	0.50	Flooding	0.80	Content of large stones	0.26
	Content of large stones	0.35	Content of large stones	0.35	Gravel content	0.17
					Droughty	0.01
3634A: Blyton-----	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Depth to saturated zone	0.99	Flooding	1.00
	Flooding	1.00	Flooding	0.80		
			Cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3641L: Quiver-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
7037B: Worthen-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	0.78				
	Flooding	0.40				
7075B: Drury-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Flooding	0.40				
7081A: Littleton-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Flooding	0.40				
7242A: Kendall-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Flooding	0.40				
7338B2: Hurst-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	1.00		
	Depth to saturated zone	0.94	Cutbanks cave	0.10		
	Flooding	0.40				
7432A: Geff-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to saturated zone	0.75	Cutbanks cave	1.00		
	Shrink-swell	0.50				
	Flooding	0.40				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7434B: Ridgway-----	Very limited Frost action Low strength Shrink-swell Flooding	1.00 1.00 0.50 0.40	Very limited Cutbanks cave	1.00	Not limited	
7457A: Booker-----	Very limited Shrink-swell Ponding Depth to saturated zone Frost action Low strength	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Cutbanks cave	1.00 1.00 1.00 1.00 0.10	Very limited Too clayey Ponding Depth to saturated zone	1.00 1.00 1.00
8028A: Jules-----	Very limited Frost action Flooding Low strength	1.00 1.00 0.22	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.60 0.15 0.10	Somewhat limited Flooding	0.60
8070A: Beaucoup-----	Very limited Ponding Depth to saturated zone Frost action Flooding Low strength	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 1.00 0.60 0.10	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
8071A: Darwin-----	Very limited Shrink-swell Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Flooding Cutbanks cave	1.00 1.00 1.00 0.68 0.60 0.10	Very limited Ponding Depth to saturated zone Too clayey Flooding	1.00 1.00 1.00 0.60
8180A: Dupo-----	Very limited Frost action Flooding Depth to saturated zone	1.00 1.00 0.75	Very limited Depth to saturated zone Flooding Cutbanks cave Too clayey	1.00 1.00 0.60 0.50 0.04	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
8248A: McFain-----	Very limited Ponding Depth to saturated zone Frost action Flooding	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 1.00 0.60 0.10	Very limited Ponding Depth to saturated zone Too clayey Flooding	1.00 1.00 1.00 0.60

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Local roads and streets		Shallow excavations		Lawns and landscaping	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8284A: Tice-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Flooding	1.00	saturated zone		saturated zone	
	Low strength	1.00	Flooding	0.60	Flooding	0.60
	Depth to	0.75	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
9278A: Stronghurst-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
9279B: Rozetta-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
9279C2: Rozetta-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
9279D3: Rozetta-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to	0.15		
	Slope	0.96	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
9962D3: Sylvan-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Cutbanks cave	0.50		
	Slope	0.96				
	Shrink-swell	0.50				
Bold-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.96	Cutbanks cave	0.10		
	Low strength	0.78				

Table 16a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53
8D3: Hickory-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53
8F: Hickory-----	Very limited Slope Restricted permeability	1.00 1.00	Very limited Slope Seepage	1.00 0.53
8F2: Hickory-----	Very limited Slope Restricted permeability	1.00 0.46	Very limited Slope Seepage	1.00 0.53
8G: Hickory-----	Very limited Slope Restricted permeability	1.00 0.46	Very limited Slope Seepage	1.00 0.53
16A: Rushville-----	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
17A: Keomah-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.53
45A: Denny-----	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
46A: Herrick-----	Very limited Depth to saturated zone Restricted permeability	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
47A: Virden-----	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.53
50A: Virden-----	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.53
51A: Muscatune-----	Very limited Depth to saturated zone Restricted permeability	1.00  0.46	Very limited Depth to saturated zone Seepage	1.00  0.53
61A: Atterberry-----	Very limited Depth to saturated zone Restricted permeability	1.00  0.46	Very limited Depth to saturated zone Seepage	1.00  0.53
68A: Sable-----	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.53
75C: Drury-----	Somewhat limited Restricted permeability	0.46	Very limited Slope Seepage	1.00 0.53
79B: Menfro-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage Slope	0.53 0.18
79C2: Menfro-----	Somewhat limited Restricted permeability	0.46	Very limited Slope Seepage	1.00 0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
79D2: Menfro-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
79D3: Menfro-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
79E2: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
79F: Menfro-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
86B: Osco-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
86C2: Osco-----	Somewhat limited Restricted permeability	0.46	Very limited Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
112A: Cowden-----	Very limited Restricted permeability	1.00	Very limited Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
113A: Oconee-----	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
113B: Oconee-----	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
119C2: Elco-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
			Depth to saturated zone	0.04
119C3: Elco-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
			Depth to saturated zone	0.04
119D2: Elco-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
	Slope	0.96	Depth to saturated zone	0.04
119D3: Elco-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
	Slope	0.96	Depth to saturated zone	0.04
127B: Harrison-----	Very limited		Somewhat limited	
	Restricted permeability	1.00	Seepage	0.53
	Depth to saturated zone	1.00	Slope	0.18
			Depth to saturated zone	0.04
259C2: Assumption-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Restricted permeability	1.00	Seepage	0.53
			Depth to saturated zone	0.04
267A: Caseyville-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
267B: Caseyville-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
			Slope	0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
279B: Rozetta-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
279C2: Rozetta-----	Somewhat limited Restricted permeability	0.46	Very limited Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
279C3: Rozetta-----	Somewhat limited Restricted permeability	0.46	Very limited Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
279D2: Rozetta-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
279D3: Rozetta-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
280B: Fayette-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage	0.53
			Slope	0.18
280C: Fayette-----	Somewhat limited Restricted permeability	0.46	Very limited Slope	1.00
			Seepage	0.53
280C2: Fayette-----	Somewhat limited Restricted permeability	0.46	Very limited Slope	1.00
			Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
280C3: Fayette-----	Somewhat limited Restricted permeability	0.46	Very limited Slope Seepage	1.00 0.53
280D: Fayette-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53
280D2: Fayette-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53
280D3: Fayette-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53
280E2: Fayette-----	Very limited Slope Restricted permeability	1.00 0.46	Very limited Slope Seepage	1.00 0.53
280F: Fayette-----	Very limited Slope Restricted permeability	1.00 0.46	Very limited Slope Seepage	1.00 0.53
434B: Ridgway-----	Very limited Seepage Restricted permeability	1.00 0.46	Very limited Seepage Slope	1.00 0.18
438B: Aviston-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.18
477B: Winfield-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.18
477B3: Winfield-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
477C2: Winfield-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	1.00 0.53
477C3: Winfield-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	1.00 0.53
477D2: Winfield-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
477D3: Winfield-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Slope	1.00
	Slope	0.96	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53
515B2: Bunkum-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	0.18
515C2: Bunkum-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
515C3: Bunkum-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
538B2: Emery-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage Slope	0.53 0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
538C2: Emery-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Slope Seepage	1.00 0.53
582B: Homen-----	Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Seepage	0.53
	Restricted permeability	1.00	Slope Depth to saturated zone	0.18 0.04
675B: Greenbush-----	Somewhat limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
675C2: Greenbush-----	Somewhat limited		Very limited	
	Restricted permeability	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
701F: Menfro-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Hickory-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
802E: Orthents-----	Very limited		Very limited	
	Restricted permeability	1.00	Slope	1.00
	Slope	1.00		
833F: Menfro-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Goss-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
833F2: Menfro-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
833F2:				
Goss-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
833G:				
Goss-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Menfro-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
836G:				
Hamburg-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Lacrescent-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.20	Content of large stones	0.08
837G:				
Rock outcrop, limestone-----	Not rated		Not rated	
Lacrescent-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00
	Content of large stones	0.20	Content of large stones	0.08
838F:				
Fayette-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Goss-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
838F2:				
Fayette-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Goss-----	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Restricted permeability	0.46	Seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
838G:				
Goss-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
864:				
Pits, quarries-----	Not rated		Not rated	
885A:				
Virden-----	Very limited Ponding	1.00	Very limited Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
Fosterburg-----	Very limited Restricted permeability	1.00	Very limited Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
894A:				
Herrick-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Restricted permeability	1.00	Seepage	0.53
Biddle-----	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
Piasa-----	Very limited Restricted permeability	1.00	Very limited Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
897C2:				
Bunkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Restricted permeability	1.00	Slope	1.00
Atlas-----	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
962D2:				
Sylvan-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Bold-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
962D3:				
Sylvan-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Bold-----	Somewhat limited Slope	0.96	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
962E2:				
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
962F:				
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
962G:				
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53
993A:				
Cowden-----	Very limited Restricted permeability	1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
	Ponding Depth to saturated zone	1.00 1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
993A: Piassa-----	Very limited Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
3070A: Beaucoup-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3070L: Beaucoup-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3071L: Darwin-----	Very limited Flooding Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3074A: Radford-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3077A: Huntsville-----	Very limited Flooding Restricted permeability Depth to saturated zone	1.00 0.46 0.40	Very limited Flooding Seepage	1.00 0.53
3107A: Sawmill-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 0.46	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3288A: Petrolia-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3333A: Wakeland-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3336A: Wilbur-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3451A: Lawson-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3475A: Elsah-----	Very limited Flooding Seepage Content of large stones	1.00 1.00 0.35	Very limited Flooding Seepage Content of large stones	1.00 1.00 0.55
3634A: Blyton-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
3641L: Quiver-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
7037B: Worthen-----	Somewhat limited Restricted permeability Flooding	0.46 0.40	Somewhat limited Seepage Flooding Slope	0.53 0.40 0.18

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7075B: Drury-----	Somewhat limited		Somewhat limited	
	Restricted	0.46	Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40	Slope	0.18
7081A: Littleton-----	Very limited		Very limited	
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Restricted	0.46	Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40		
7242A: Kendall-----	Very limited		Very limited	
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Restricted	0.46	Seepage	0.53
	permeability		Flooding	0.40
	Flooding	0.40		
7338B2: Hurst-----	Very limited		Very limited	
	Restricted	1.00	Depth to	1.00
	permeability		saturated zone	
	Depth to	1.00	Flooding	0.40
	saturated zone		Slope	0.18
	Flooding	0.40		
7432A: Geff-----	Very limited		Very limited	
	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone	
	Seepage	1.00	Seepage	0.53
	Restricted	0.46	Flooding	0.40
	permeability			
	Flooding	0.40		
7434B: Ridgway-----	Very limited		Very limited	
	Filtering	1.00	Seepage	1.00
	capacity		Flooding	0.40
	Seepage	1.00	Slope	0.18
	Restricted	0.46		
	permeability			
	Flooding	0.40		
7457A: Booker-----	Very limited		Very limited	
	Restricted	1.00	Ponding	1.00
	permeability		Depth to	1.00
	Ponding	1.00	saturated zone	
	Depth to	1.00	Flooding	0.40
	saturated zone			
	Flooding	0.40		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8028A: Jules-----	Very limited Flooding Restricted permeability Depth to saturated zone	1.00 0.46 0.40	Very limited Flooding Seepage	1.00 0.53
8070A: Beaucoup-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
8071A: Darwin-----	Very limited Flooding Restricted permeability Ponding Depth to saturated zone	1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
8180A: Dupo-----	Very limited Flooding Restricted permeability Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
8248A: McFain-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	1.00 1.00 1.00 0.72	Very limited Ponding Flooding Depth to saturated zone Seepage	1.00 1.00 1.00 0.28
8284A: Tice-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
9278A: Stronghurst-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
9279B: Rozetta-----	Somewhat limited		Somewhat limited	
	Restricted	0.46	Seepage	0.53
	permeability		Slope	0.18
	Depth to	0.40		
	saturated zone			
9279C2: Rozetta-----	Somewhat limited		Very limited	
	Restricted	0.46	Slope	1.00
	permeability		Seepage	0.53
	Depth to	0.40		
	saturated zone			
9279D3: Rozetta-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted	0.46	Seepage	0.53
	permeability			
	Depth to	0.40		
	saturated zone			
9962D3: Sylvan-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted	0.46	Seepage	0.53
	permeability			
Bold-----	Somewhat limited		Very limited	
	Slope	0.96	Slope	1.00
	Restricted	0.46	Seepage	0.53
	permeability			

Table 16b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Slope Too clayey	 0.96 0.50	Somewhat limited Slope	 0.96	Somewhat limited Slope Too clayey	 0.96 0.50
8D3: Hickory-----	Somewhat limited Slope Too clayey	 0.96 0.50	Somewhat limited Slope	 0.96	Somewhat limited Slope Too clayey	 0.96 0.50
8F: Hickory-----	Very limited Slope Too clayey	 1.00 0.50	Very limited Slope	 1.00	Very limited Slope Too clayey	 1.00 0.50
8F2: Hickory-----	Very limited Slope Too clayey	 1.00 0.50	Very limited Slope	 1.00	Very limited Slope Too clayey	 1.00 0.50
8G: Hickory-----	Very limited Slope Too clayey	 1.00 0.50	Very limited Slope	 1.00	Very limited Slope Too clayey	 1.00 0.50
16A: Rushville-----	Very limited Depth to saturated zone Ponding	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
17A: Keomah-----	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.50
45A: Denny-----	Very limited Depth to saturated zone Ponding Too clayey	 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
46A: Herrick-----	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Very limited Hard to compact Depth to saturated zone Too clayey	 1.00 1.00 0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Virdden-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone		Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
50A: Virdden-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
51A: Muscatune-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
61A: Atterberry-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
68A: Sable-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
75C: Drury-----	Not limited		Not limited		Not limited	
79B: Menfro-----	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
79C2: Menfro-----	Somewhat limited		Not limited		Somewhat limited	
	Too clayey	0.50			Too clayey	0.50
79D2: Menfro-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
79D3: Menfro-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Too clayey	0.50			Too clayey	0.50
79E2: Menfro-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79F: Menfro-----	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
86B: Osco-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
86C2: Osco-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
112A: Cowden-----	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact Too clayey	1.00 1.00 1.00 0.50
113A: Oconee-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
113B: Oconee-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
119C2: Elco-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
119C3: Elco-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
119D2: Elco-----	Somewhat limited Slope Depth to saturated zone Too clayey	0.96 0.68 0.50	Somewhat limited Slope Depth to saturated zone	0.96 0.04	Somewhat limited Slope Too clayey Depth to saturated zone	0.96 0.50 0.24

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119D3: Elco-----	Somewhat limited Slope Depth to saturated zone Too clayey	0.96 0.68 0.50	Somewhat limited Slope Depth to saturated zone	0.96 0.04	Somewhat limited Slope Too clayey Depth to saturated zone	0.96 0.50 0.24
127B: Harrison-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
259C2: Assumption-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
267A: Caseyville-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
267B: Caseyville-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
278A: Stronghurst-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
279B: Rozetta-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
279C2: Rozetta-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
279C3: Rozetta-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
279D2: Rozetta-----	Very limited Depth to saturated zone Slope Too clayey	1.00 0.96 0.50	Very limited Depth to saturated zone Slope	1.00 0.96	Somewhat limited Slope Too clayey	0.96 0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279D3: Rozetta-----	Very limited Depth to saturated zone Slope	1.00  0.96	Very limited Depth to saturated zone Slope	1.00  0.96	Somewhat limited Slope	0.96
280B: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280C: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280C2: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280C3: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
280D: Fayette-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
280D2: Fayette-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
280D3: Fayette-----	Somewhat limited Slope Too clayey	0.96  0.50	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey	0.96  0.50
280E2: Fayette-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
280F: Fayette-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
434B: Ridgway-----	Very limited Seepage Too sandy	1.00  0.50	Very limited Seepage	1.00	Somewhat limited Seepage Too sandy Too clayey	0.51  0.50 0.50
438B: Aviston-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477B: Winfield-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
477B3: Winfield-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
477C2: Winfield-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
477C3: Winfield-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
477D2: Winfield-----	Very limited Depth to saturated zone Slope Too clayey	1.00  0.96 0.50	Very limited Depth to saturated zone Slope	1.00 0.96	Somewhat limited Slope Too clayey Depth to saturated zone	0.96 0.50 0.24
477D3: Winfield-----	Very limited Depth to saturated zone Slope Too clayey	1.00  0.96 0.50	Very limited Depth to saturated zone Slope	1.00 0.96	Somewhat limited Slope Too clayey Depth to saturated zone	0.96 0.50 0.24
515B2: Bunkum-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
515C2: Bunkum-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
515C3: Bunkum-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
538B2: Emery-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
538C2: Emery-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
582B: Homen-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24
675B: Greenbush-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
675C2: Greenbush-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
701F: Menfro-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
Hickory-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
802E: Orthents-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
833F: Menfro-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
Goss-----	Very limited Slope Too clayey Content of large stones	1.00 1.00 0.01	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content Content of large stones	1.00 1.00 0.68 0.01
833F2: Menfro-----	Very limited Slope Too clayey	1.00  0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00  0.50
Goss-----	Very limited Slope Too clayey Content of large stones	1.00 1.00 0.01	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content Content of large stones	1.00 1.00 0.68 0.01

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833G:						
Goss-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
	Content of large stones	0.01			Gravel content	0.68
					Content of large stones	0.01
Menfro-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
836G:						
Hamburg-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Lacrescent-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Content of large stones	0.77
	Content of large stones	0.77			Seepage	0.52
837G:						
Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage	1.00	Seepage	1.00	Content of large stones	0.77
	Content of large stones	0.77			Seepage	0.52
838F:						
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Goss-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
	Content of large stones	0.01			Gravel content	0.68
					Content of large stones	0.01
838F2:						
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
Goss-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
	Content of large stones	0.01			Gravel content	0.68
					Content of large stones	0.01

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838G:						
Goss-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00			Too clayey	1.00
	Content of large stones	0.01			Gravel content	0.68
					Content of large stones	0.01
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	0.50			Too clayey	0.50
864:						
Pits, quarries-----	Not rated		Not rated		Not rated	
885A:						
Viriden-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
Fosterburg-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
894A:						
Herrick-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
	Too clayey	0.50			Depth to saturated zone	1.00
					Too clayey	0.50
Biddle-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
Piasa-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Sodium content	1.00			Sodium content	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
897C2:						
Bunkum-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
Atlas-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D2: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
962D3: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
962E2: Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962F: Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962G: Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Bold-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
993A: Cowden-----	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Hard to compact Too clayey	1.00 1.00 1.00 0.50
Piasa-----	Very limited Depth to saturated zone Ponding Sodium content Too clayey	1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Sodium content Hard to compact Too clayey	1.00 1.00 1.00 1.00 0.50
3070A: Beaucoup-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3070L: Beaucoup-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.50
3071L: Darwin-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Hard to compact	1.00 1.00 1.00 1.00
3074A: Radford-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3077A: Huntsville-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Not limited	
3107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.50
3288A: Petrolia-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 0.50
3333A: Wakeland-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
3336A: Wilbur-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.95
3451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3475A: Elsah-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Seepage	1.00
	Seepage	1.00	Seepage	1.00	Content of large stones	0.54
	Content of large stones	0.54			Gravel content	0.07
3634A: Blyton-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Somewhat limited Depth to	0.24
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	saturated zone	
3641L: Quiver-----	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
7037B: Worthen-----	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
7075B: Drury-----	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
7081A: Littleton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40		
7242A: Kendall-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	0.50	Flooding	0.40	Too clayey	0.50
	Flooding	0.40				
7338B2: Hurst-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
	Flooding	0.40			Hard to compact	1.00
7432A: Geff-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Seepage	1.00	Flooding	0.40		
	Flooding	0.40				
7434B: Ridgway-----	Very limited Seepage	1.00	Very limited Seepage	1.00	Very limited Seepage	1.00
	Too clayey	0.50	Flooding	0.40	Too clayey	0.50
	Flooding	0.40				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7457A: Booker-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Flooding	0.40	Too clayey	1.00
	Flooding	0.40			Hard to compact	1.00
8028A: Jules-----	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
8070A: Beaucoup-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8071A: Darwin-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Too clayey	0.50			Hard to compact	1.00
8180A: Dupo-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Hard to compact	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00				
8248A: McFain-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00		
8284A: Tice-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
9278A: Stronghurst-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Too clayey	0.50
9279B: Rozetta-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9279C2: Rozetta-----	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
9279D3: Rozetta-----	Very limited Depth to saturated zone Slope	1.00  0.96	Very limited Depth to saturated zone Slope	1.00  0.96	Somewhat limited Slope	0.96
9962D3: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96

Table 17.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.97	Too clayey	0.57
			Rock fragments	0.97
8D3: Hickory-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.97	Too clayey	0.58
			Rock fragments	0.97
8F: Hickory-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.58
	Shrink-swell	0.98		
8F2: Hickory-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.99	Rock fragments	0.88
8G: Hickory-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.99		
16A: Rushville-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.01
	Shrink-swell	0.49		
17A: Keomah-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.04
	Depth to saturated zone	0.04	Too clayey	0.05
	Shrink-swell	0.89		
45A: Denny-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.01
	Shrink-swell	0.74		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
46A: Herrick-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.05
	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Shrink-swell	0.47		
47A: Virden-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.53
	Shrink-swell	0.18		
50A: Virden-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.02
	Shrink-swell	0.35		
51A: Muscatune-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.14
	Depth to saturated zone	0.14	Too clayey	0.67
	Shrink-swell	0.99		
61A: Atterberry-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.04
	Depth to saturated zone	0.04	Too clayey	0.55
	Shrink-swell	0.99	Too acid	0.98
68A: Sable-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.98
	Shrink-swell	0.87		
75C: Drury-----	Fair		Good	
	Low strength	0.22		
79B: Menfro-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
79C2: Menfro-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.90		
79D2: Menfro-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.98	Too clayey	0.57

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
79D3: Menfro-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.99	Too clayey	0.57
79E2: Menfro-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.18	Too clayey	0.57
	Shrink-swell	0.87		
79F: Menfro-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.64
	Shrink-swell	0.94		
86B: Osc-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
86C2: Osc-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
112A: Cowden-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.05
	Shrink-swell	0.57		
113A: Oconee-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.04
	Depth to saturated zone	0.04	Too clayey	0.05
	Shrink-swell	0.38		
113B: Oconee-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.04
	Depth to saturated zone	0.04	Too clayey	0.05
	Shrink-swell	0.38		
119C2: Elco-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.43	Depth to saturated zone	0.98
	Depth to saturated zone	0.98		
119C3: Elco-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.58
	Shrink-swell	0.47	Depth to saturated zone	0.98
	Depth to saturated zone	0.98		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
119D2: Elco-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.38	Too clayey	0.57
	Depth to saturated zone	0.98	Depth to saturated zone	0.98
119D3: Elco-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
	Shrink-swell	0.47	Too clayey	0.58
	Depth to saturated zone	0.98	Depth to saturated zone	0.98
127B: Harrison-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.67
	Shrink-swell	0.87	Depth to	0.98
	Depth to saturated zone	0.98	saturated zone	
259C2: Assumption-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.31	Depth to	0.98
	Depth to saturated zone	0.98	saturated zone	
267A: Caseyville-----	Poor		Fair	
	Low strength	0.00	Depth to	0.04
	Depth to saturated zone	0.04	saturated zone	
	Shrink-swell	0.87	Too clayey	0.64
267B: Caseyville-----	Poor		Fair	
	Low strength	0.00	Depth to	0.04
	Depth to saturated zone	0.04	saturated zone	
	Shrink-swell	0.87	Too clayey	0.64
278A: Stronghurst-----	Poor		Fair	
	Low strength	0.00	Depth to	0.04
	Depth to saturated zone	0.04	saturated zone	
	Shrink-swell	0.97	Too clayey	0.70
279B: Rozetta-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.92		
279C2: Rozetta-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.60
	Shrink-swell	0.90		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
279C3: Rozetta-----	Poor Low strength	0.00	Fair Too clayey	0.60
279D2: Rozetta-----	Poor Low strength Shrink-swell	0.00 0.96	Fair Slope Too clayey	0.04 0.60
279D3: Rozetta-----	Poor Low strength	0.00	Fair Slope Too clayey	0.04 0.60
280B: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.64
280C: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
280C2: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
280C3: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
280D: Fayette-----	Poor Low strength Shrink-swell	0.00 0.90	Fair Slope Too clayey	0.04 0.64
280D2: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Too clayey	0.04 0.57
280D3: Fayette-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Too clayey	0.04 0.57
280E2: Fayette-----	Poor Low strength Slope Shrink-swell	0.00 0.18 0.87	Poor Slope Too clayey	0.00 0.57
280F: Fayette-----	Poor Low strength Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Too clayey	0.00 0.64

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
434B: Ridgway-----	Good		Fair Too clayey	0.76
438B: Aviston-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.93 0.98	Fair Too clayey Depth to saturated zone	0.70 0.98
477B: Winfield-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.87 0.98	Fair Too clayey Depth to saturated zone	0.58 0.98
477B3: Winfield-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.96 0.98	Fair Too clayey Depth to saturated zone	0.64 0.98
477C2: Winfield-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.95 0.98	Fair Too clayey Depth to saturated zone	0.58 0.98
477C3: Winfield-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.98 0.99	Fair Too clayey Depth to saturated zone	0.57 0.98
477D2: Winfield-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.93 0.98	Fair Slope Too clayey Depth to saturated zone	0.04 0.57 0.98
477D3: Winfield-----	Poor Low strength Shrink-swell Depth to saturated zone	0.00 0.96 0.98	Fair Slope Too clayey Depth to saturated zone	0.04 0.58 0.98
515B2: Bunkum-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.95	Fair Depth to saturated zone Too clayey	0.14 0.70

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
515C2: Bunkum-----	Poor		Fair	
	Low strength	0.00	Depth to	0.14
	Depth to saturated zone	0.14	saturated zone	
	Shrink-swell	0.95	Too clayey	0.57
515C3: Bunkum-----	Poor		Fair	
	Low strength	0.00	Depth to	0.14
	Depth to saturated zone	0.14	saturated zone	
	Shrink-swell	0.99	Too clayey	0.64
538B2: Emery-----	Poor		Fair	
	Low strength	0.00	Depth to	0.04
	Depth to saturated zone	0.04	saturated zone	
	Shrink-swell	0.91	Too clayey	0.57
538C2: Emery-----	Poor		Fair	
	Low strength	0.00	Depth to	0.04
	Depth to saturated zone	0.04	saturated zone	
	Shrink-swell	0.91	Too clayey	0.57
582B: Homen-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.58
	Shrink-swell	0.93	Depth to	0.98
	Depth to saturated zone	0.98	saturated zone	
675B: Greenbush-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.70
	Shrink-swell	0.91		
675C2: Greenbush-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.70
	Shrink-swell	0.87		
701F: Menfro-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.64
	Shrink-swell	0.94		
Hickory-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.58
	Shrink-swell	0.98	Rock fragments	0.88
802E: Orthents-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.32		
	Shrink-swell	0.87		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
833F:				
Menfro-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.57
	Shrink-swell	0.87		
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
833F2:				
Menfro-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.57
	Shrink-swell	0.87		
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
833G:				
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
Menfro-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.57
	Shrink-swell	0.87		
836G:				
Hamburg-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Carbonate content	0.88
Lacrescent-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.02	Hard to reclaim (rock fragments)	0.00
			Rock fragments	0.02
837G:				
Rock outcrop, limestone-----	Not rated		Not rated	
Lacrescent-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.02	Hard to reclaim (rock fragments)	0.00
			Rock fragments	0.02

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
838F:				
Fayette-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.64
	Shrink-swell	0.87		
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
838F2:				
Fayette-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Too clayey	0.57
	Shrink-swell	0.87		
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
838G:				
Goss-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Cobble content	0.81	Rock fragments	0.00
	Shrink-swell	0.89	Too clayey	0.00
			Hard to reclaim (rock fragments)	0.00
Fayette-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.64
	Shrink-swell	0.87		
864:				
Pits, quarries-----	Not rated		Not rated	
885A:				
Virden-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.25
	Shrink-swell	0.18		
Fosterburg-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.07
	Shrink-swell	0.16	Sodium content	0.22

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
894A:				
Herrick-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.05
	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Shrink-swell	0.47		
Biddle-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.05
	Depth to saturated zone	0.14	Depth to saturated zone	0.14
	Shrink-swell	0.28	Sodium content	0.22
Piasa-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Sodium content	0.00
	Shrink-swell	0.49	Too clayey	0.01
897C2:				
Bunkum-----	Poor		Fair	
	Low strength	0.00	Depth to	0.14
	Depth to saturated zone	0.14	saturated zone	
	Shrink-swell	0.99	Too clayey	0.70
Atlas-----	Poor		Fair	
	Low strength	0.00	Too clayey	0.01
	Depth to saturated zone	0.04	Depth to saturated zone	0.04
	Shrink-swell	0.22		
962D2:				
Sylvan-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
			Too clayey	0.64
Bold-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
			Carbonate content	0.32
962D3:				
Sylvan-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
			Too clayey	0.57
Bold-----	Poor		Fair	
	Low strength	0.00	Slope	0.04
			Carbonate content	0.32
962E2:				
Sylvan-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.18	Too clayey	0.57
Bold-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.18	Carbonate content	0.32

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
962F:				
Sylvan-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.64
Bold-----	Poor		Poor	
	Low strength	0.00	Slope	0.00
	Slope	0.00	Carbonate content	0.32
962G:				
Sylvan-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Too clayey	0.64
Bold-----	Poor		Poor	
	Slope	0.00	Slope	0.00
	Low strength	0.00	Carbonate content	0.32
993A:				
Cowden-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.05
	Shrink-swell	0.57		
Piasa-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Sodium content	0.00
	Shrink-swell	0.49	Too clayey	0.01
3070A:				
Beaucoup-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.86
	Shrink-swell	0.87		
3070L:				
Beaucoup-----	Poor		Poor	
	Depth to saturated zone	0.00	Depth to saturated zone	0.00
	Low strength	0.00	Too clayey	0.86
	Shrink-swell	0.87		
3071L:				
Darwin-----	Poor		Poor	
	Depth to saturated zone	0.00	Too clayey	0.00
	Shrink-swell	0.00	Depth to saturated zone	0.00
	Low strength	0.00		
3074A:				
Radford-----	Poor		Fair	
	Low strength	0.00	Depth to saturated zone	0.14
	Depth to saturated zone	0.14		

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3077A: Huntsville-----	Poor Low strength Shrink-swell	0.00 0.87	Good	
3107A: Sawmill-----	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to saturated zone Too clayey	0.00 0.98
3288A: Petrolia-----	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to saturated zone Too clayey	0.00 0.67
3333A: Wakeland-----	Fair Depth to saturated zone	0.04	Fair Depth to saturated zone	0.04
3336A: Wilbur-----	Fair Depth to saturated zone	0.32	Fair Depth to saturated zone	0.32
3451A: Lawson-----	Poor Low strength Depth to saturated zone	0.00 0.14	Fair Depth to saturated zone	0.14
3475A: Elsah-----	Fair Cobble content	0.07	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
3634A: Blyton-----	Fair Depth to saturated zone	0.98	Fair Depth to saturated zone	0.98
3641L: Quiver-----	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to saturated zone Too clayey	0.00 0.64
7037B: Worthen-----	Poor Low strength	0.00	Good	
7075B: Drury-----	Fair Low strength	0.22	Good	

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
7081A: Littleton-----	Poor Low strength Depth to saturated zone	0.00 0.14	Fair Depth to saturated zone	0.14
7242A: Kendall-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.95	Fair Depth to saturated zone Too clayey	0.04 0.57
7338B2: Hurst-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.12	Poor Too clayey Depth to saturated zone	0.00 0.04
7432A: Geff-----	Poor Low strength Depth to saturated zone	0.00 0.14	Fair Depth to saturated zone Too clayey	0.14 0.70
7434B: Ridgway-----	Good		Fair Too clayey	0.64
7457A: Booker-----	Poor Depth to saturated zone Shrink-swell Low strength	0.00 0.00 0.00	Poor Too clayey Depth to saturated zone	0.00 0.00
8028A: Jules-----	Fair Low strength	0.78	Fair Carbonate content	0.46
8070A: Beaucoup-----	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to saturated zone Too clayey	0.00 0.76
8071A: Darwin-----	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.00	Poor Too clayey Depth to saturated zone	0.00 0.00
8180A: Dupo-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.90	Fair Depth to saturated zone	0.14

Table 17.--Construction Materials--Continued

Map symbol and soil name	Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8248A: McFain-----	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
8284A: Tice-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.14 0.87	Fair Depth to saturated zone Too clayey	0.14 0.64
9278A: Stronghurst-----	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.97	Fair Depth to saturated zone Too clayey	0.04 0.70
9279B: Rozetta-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey Too acid	0.60 0.98
9279C2: Rozetta-----	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.60
9279D3: Rozetta-----	Poor Low strength	0.00	Fair Slope Too clayey	0.04 0.60
9962D3: Sylvan-----	Poor Low strength	0.00	Fair Slope Too clayey	0.04 0.57
Bold-----	Poor Low strength	0.00	Fair Slope Carbonate content	0.04 0.32

Table 18a.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.12	Very limited No ground water	1.00
8D3: Hickory-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.09	Very limited No ground water	1.00
8F: Hickory-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.82	Very limited No ground water	1.00
8F2: Hickory-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.08	Very limited No ground water	1.00
8G: Hickory-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.27	Very limited No ground water	1.00
16A: Rushville-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.08	Somewhat limited Cutbanks cave Slow refill	0.50 0.28
17A: Keomah-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.30	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
45A: Denny-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.17	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
46A: Herrick-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
47A: Virden-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50A: Virden-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
51A: Muscatune-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.18	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
61A: Atterberry-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
68A: Sable-----	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
75C: Drury-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.88	Very limited No ground water	1.00
79B: Menfro-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.08	Very limited No ground water	1.00
79C2: Menfro-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.09	Very limited No ground water	1.00
79D2: Menfro-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.29	Very limited No ground water	1.00
79D3: Menfro-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.28	Very limited No ground water	1.00
79E2: Menfro-----	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.04	Very limited No ground water	1.00
79F: Menfro-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.14	Very limited No ground water	1.00
86B: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited No ground water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86C2: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited No ground water	1.00
112A: Cowden-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
113A: Oconee-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
113B: Oconee-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
119C2: Elco-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.03	Very limited No ground water	1.00
119C3: Elco-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone	0.68	Very limited No ground water	1.00
119D2: Elco-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone Piping	0.68 0.02	Very limited No ground water	1.00
119D3: Elco-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited No ground water	1.00
127B: Harrison-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.01	Very limited No ground water	1.00
259C2: Assumption-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone	0.68	Very limited No ground water	1.00
267A: Caseville-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.69	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
267B: Caseyville-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.69	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
278A: Stronghurst-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
279B: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited No ground water	1.00
279C2: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited No ground water Slow refill	1.00 0.28
279C3: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.10	Very limited No ground water	1.00
279D2: Rozetta-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.01	Very limited No ground water	1.00
279D3: Rozetta-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.10	Very limited No ground water	1.00
280B: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.21	Very limited No ground water	1.00
280C: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited No ground water	1.00
280C2: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited No ground water	1.00
280C3: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.02	Very limited No ground water	1.00
280D: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.32	Very limited No ground water	1.00
280D2: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.03	Very limited No ground water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280D3: Fayette-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.08	Very limited No ground water	1.00
280E2: Fayette-----	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.03	Very limited No ground water	1.00
280F: Fayette-----	Somewhat limited Seepage Slope	0.72 0.34	Somewhat limited Piping	0.17	Very limited No ground water	1.00
434B: Ridgway-----	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.08	Very limited No ground water	1.00
438B: Aviston-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.31	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477B: Winfield-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.14	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477B3: Winfield-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.20	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477C2: Winfield-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.23	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477C3: Winfield-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.16	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477D2: Winfield-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone Piping	0.68 0.10	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10
477D3: Winfield-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Depth to saturated zone Piping	0.68 0.20	Somewhat limited Slow refill Depth to water Cutbanks cave	0.28 0.14 0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
515B2: Bunkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00  0.54	Somewhat limited Slow refill Cutbanks cave	0.96  0.10
515C2: Bunkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00  0.56	Somewhat limited Slow refill Cutbanks cave	0.96  0.10
515C3: Bunkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00  0.50	Somewhat limited Slow refill Cutbanks cave	0.96  0.10
538B2: Emery-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.61	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
538C2: Emery-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00  0.61	Somewhat limited Slow refill Cutbanks cave	0.28  0.10
582B: Homen-----	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone Piping	0.68  0.34	Very limited No ground water	1.00
675B: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.17	Very limited No ground water Slow refill	1.00  0.28
675C2: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.08	Very limited No ground water	1.00
701F: Menfro-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.14	Very limited No ground water	1.00
Hickory-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.21	Very limited No ground water	1.00
802E: Orthents-----	Somewhat limited Slope Seepage	0.15 0.04	Somewhat limited Piping	0.50	Very limited No ground water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833F:						
Menfro-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.15	Very limited No ground water	1.00
Goss-----	Somewhat limited Seepage Slope	0.72 0.36	Not limited		Very limited No ground water	1.00
833F2:						
Menfro-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.14	Very limited No ground water	1.00
Goss-----	Somewhat limited Seepage Slope	0.72 0.36	Not limited		Very limited No ground water	1.00
833G:						
Goss-----	Somewhat limited Slope Seepage	0.99 0.72	Not limited		Very limited No ground water	1.00
Menfro-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.15	Very limited No ground water	1.00
836G:						
Hamburg-----	Somewhat limited Slope Seepage	0.99 0.72	Very limited Piping	1.00	Very limited No ground water	1.00
Lacrescent-----	Very limited Seepage Slope	1.00 0.99	Somewhat limited Content of large stones	0.20	Very limited No ground water	1.00
837G:						
Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Seepage Slope	1.00 0.99	Somewhat limited Content of large stones	0.20	Very limited No ground water	1.00
838F:						
Fayette-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.17	Very limited No ground water	1.00
Goss-----	Somewhat limited Seepage Slope	0.72 0.36	Not limited		Very limited No ground water	1.00
838F2:						
Fayette-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.37	Very limited No ground water	1.00
Goss-----	Somewhat limited Seepage Slope	0.72 0.36	Not limited		Very limited No ground water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
838G:						
Goss-----	Somewhat limited Slope Seepage	0.99 0.72	Not limited		Very limited No ground water	1.00
Fayette-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.17	Very limited No ground water	1.00
864:						
Pits, quarries-----	Not rated		Not rated		Not rated	
885A:						
Virden-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Fosterburg-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.78	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
894A:						
Herrick-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
Biddle-----	Not limited		Very limited Depth to saturated zone Piping	1.00 0.78	Very limited No ground water	1.00
Piasa-----	Not limited		Very limited Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Very limited No ground water	1.00
897C2:						
Bunkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00 0.53	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
Atlas-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.49	Very limited No ground water	1.00
962D2:						
Sylvan-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.79	Very limited No ground water	1.00
Bold-----	Somewhat limited Seepage Slope	0.72 0.02	Very limited Piping	1.00	Very limited No ground water	1.00

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D3:						
Sylvan-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.02	Very limited No ground water	1.00
Bold-----	Somewhat limited Seepage Slope	0.72 0.02	Very limited Piping	1.00	Very limited No ground water	1.00
962E2:						
Sylvan-----	Somewhat limited Seepage Slope	0.72 0.18	Somewhat limited Piping	0.06	Very limited No ground water	1.00
Bold-----	Somewhat limited Seepage Slope	0.72 0.18	Very limited Piping	1.00	Very limited No ground water	1.00
962F:						
Sylvan-----	Somewhat limited Seepage Slope	0.72 0.36	Somewhat limited Piping	0.88	Very limited No ground water	1.00
Bold-----	Somewhat limited Seepage Slope	0.72 0.36	Very limited Piping	1.00	Very limited No ground water	1.00
962G:						
Sylvan-----	Somewhat limited Slope Seepage	0.99 0.72	Somewhat limited Piping	0.88	Very limited No ground water	1.00
Bold-----	Somewhat limited Slope Seepage	0.99 0.72	Very limited Piping	1.00	Very limited No ground water	1.00
993A:						
Cowden-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Piasa-----	Not limited		Very limited Ponding Depth to saturated zone Piping	1.00 1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
3070A:						
Beaucoup-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.24	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
3070L:						
Beaucoup-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.24	Somewhat limited Slow refill Cutbanks cave	0.96 0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3071L: Darwin-----	Not limited		Very limited Ponding	1.00	Very limited Slow refill	1.00
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Hard to pack	1.00		
3074A: Radford-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill	0.28
			Piping	0.34	Cutbanks cave	0.10
3077A: Huntsville-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited No ground water	1.00
3107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Ponding	1.00	Somewhat limited Slow refill	0.28
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.02		
3288A: Petrolia-----	Somewhat limited Seepage	0.04	Very limited Ponding	1.00	Somewhat limited Slow refill	0.96
			Depth to saturated zone	1.00	Cutbanks cave	0.10
			Piping	0.13		
3333A: Wakeland-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill	0.28
			Piping	1.00	Cutbanks cave	0.10
3336A: Wilbur-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill	0.28
			Piping	1.00	Cutbanks cave	0.10
3451A: Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill	0.28
			Piping	0.75	Cutbanks cave	0.10
3475A: Elsah-----	Very limited Seepage	1.00	Somewhat limited Content of large stones	0.35	Very limited No ground water	1.00
3634A: Blyton-----	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Somewhat limited Slow refill	0.28
			Depth to saturated zone	0.68	Depth to water	0.14
					Cutbanks cave	0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3641L: Quiver-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.10	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
7037B: Worthen-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.95	Very limited No ground water	1.00
7075B: Drury-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.88	Very limited No ground water	1.00
7081A: Littleton-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.88	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
7242A: Kendall-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.82	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
7338B2: Hurst-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 1.00	Very limited No ground water	1.00
7432A: Geff-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.70	Very limited Cutbanks cave	1.00
7434B: Ridgway-----	Very limited Seepage	1.00	Somewhat limited Piping	0.94	Very limited No ground water	1.00
7457A: Booker-----	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 1.00	Very limited Slow refill Cutbanks cave	1.00 0.10
8028A: Jules-----	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited No ground water	1.00
8070A: Beaucoup-----	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.06	Somewhat limited Slow refill Cutbanks cave	0.96 0.10

Table 18a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8071A: Darwin-----	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.98	Very limited Slow refill Cutbanks cave	1.00 0.10
8180A: Dupo-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Very limited No ground water	1.00
8248A: McFain-----	Somewhat limited Seepage	0.54	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.21	Somewhat limited Slow refill Cutbanks cave	0.46 0.10
8284A: Tice-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
9278A: Stronghurst-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
9279B: Rozetta-----	Somewhat limited Seepage	0.72	Not limited		Very limited No ground water Slow refill	1.00 0.28
9279C2: Rozetta-----	Somewhat limited Seepage	0.72	Not limited		Very limited No ground water Slow refill	1.00 0.28
9279D3: Rozetta-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.23	Very limited No ground water	1.00
9962D3: Sylvan-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.02	Very limited No ground water	1.00
Bold-----	Somewhat limited Seepage Slope	0.72 0.02	Very limited Piping	1.00	Very limited No ground water	1.00

Table 18b.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
8D3: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
8F: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
8F2: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
16A: Rushville-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.99	Very limited Water erosion Depth to saturated zone Ponding Restricted permeability	1.00 1.00 1.00 0.99	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.99
17A: Keomah-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91
45A: Denny-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Water erosion Depth to saturated zone Ponding Restricted permeability	1.00 1.00 1.00 0.91	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.91
46A: Herrick-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Frost action Restricted permeability	1.00 0.22

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47A: Virden-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Ponding Restricted permeability	1.00 0.22	Frost action Restricted permeability	1.00 0.22
50A: Virden-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Ponding Restricted permeability	1.00 0.22	Frost action Restricted permeability	1.00 0.22
51A: Muscatune-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
61A: Atterberry-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
68A: Sable-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action	1.00 1.00
75C: Drury-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
79B: Menfro-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
79C2: Menfro-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
79D2: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
79D3: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
79E2: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
79F: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
86B: Osc-----	Not limited		Not limited		Drainage not needed	
86C2: Osc-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
112A: Cowden-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Water erosion Depth to saturated zone Ponding Restricted permeability	1.00 1.00 1.00 0.91	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.91
113A: Oc-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91
113B: Oc-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Frost action Restricted permeability Slope	1.00 0.91 0.01
119C2: Elco-----	Very limited Water erosion Restricted permeability Depth to saturated zone	1.00 0.40 0.24	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.40	Very limited Frost action Slope Restricted permeability	1.00 0.74 0.40
119C3: Elco-----	Very limited Water erosion Restricted permeability Depth to saturated zone	1.00 0.40 0.24	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.40	Very limited Frost action Slope Restricted permeability	1.00 0.74 0.40
119D2: Elco-----	Very limited Slope Water erosion Restricted permeability Depth to saturated zone	1.00 1.00 0.40 0.24	Very limited Water erosion Slope Depth to saturated zone Restricted permeability	1.00 1.00 1.00 0.40	Very limited Frost action Slope Restricted permeability	1.00 1.00 0.40

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119D3: Elco-----	Very limited Slope	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Water erosion	1.00	Slope	1.00	Slope	1.00
	Restricted permeability	0.40	Depth to saturated zone	1.00	Restricted permeability	0.40
	Depth to saturated zone	0.24	Restricted permeability	0.40		
127B: Harrison-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Very limited Frost action Slope	1.00 0.01
259C2: Assumption-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Restricted permeability	0.40	Depth to saturated zone	1.00	Slope	0.74
	Depth to saturated zone	0.24	Restricted permeability	0.40	Restricted permeability	0.40
267A: Caseyville-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
267B: Caseyville-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.01
278A: Stronghurst-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
279B: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
279C2: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
279C3: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
279D2: Rozetta-----	Very limited Slope	1.00	Very limited Water erosion	1.00	Drainage not needed	
	Water erosion	1.00	Slope	1.00		
279D3: Rozetta-----	Very limited Slope	1.00	Very limited Water erosion	1.00	Drainage not needed	
	Water erosion	1.00	Slope	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280B: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
280C: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
280C2: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
280C3: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
280D: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
280D2: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
280D3: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
280E2: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
280F: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
434B: Ridgway-----	Very limited Water erosion	1.00	Very limited Water erosion Too sandy	1.00 1.00	Drainage not needed	
438B: Aviston-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Very limited Frost action Slope	1.00 0.01
477B: Winfield-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
477B3: Winfield-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
477C2: Winfield-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
477C3: Winfield-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
477D2: Winfield-----	Very limited Slope Water erosion Depth to saturated zone	1.00 1.00 0.24	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Frost action Slope	1.00 1.00
477D3: Winfield-----	Very limited Slope Water erosion Depth to saturated zone	1.00 1.00 0.24	Very limited Water erosion Slope Depth to saturated zone	1.00 1.00 1.00	Very limited Frost action Slope	1.00 1.00
515B2: Bunkum-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Frost action Restricted permeability Slope	1.00 0.22 0.01
515C2: Bunkum-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Frost action Slope Restricted permeability	1.00 0.74 0.22
515C3: Bunkum-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Frost action Slope Restricted permeability	1.00 0.74 0.22
538B2: Emery-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
538C2: Emery-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
582B: Homen-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 0.24 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Frost action Restricted permeability Slope	1.00 0.22 0.01
675B: Greenbush-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
675C2: Greenbush-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
701F: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Drainage not needed	
802E: Orthents-----	Very limited Slope Water erosion Restricted permeability	1.00 1.00 0.22	Very limited Water erosion Slope Restricted permeability	1.00 1.00 0.22	Drainage not needed	
833F: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
833F2: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
833G: Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
833G: Menfro-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
836G: Hamburg-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Lacrescent-----	Very limited Slope Content of large stones	1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
837G: Rock outcrop, limestone-----	Not rated		Not rated		Not rated	
Lacrescent-----	Very limited Slope Content of large stones	1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
838F: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
838F2: Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
838G: Goss-----	Very limited Slope Content of large stones Droughty	1.00 1.00 1.00	Very limited Slope Content of large stones	1.00 1.00	Drainage not needed	
Fayette-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Drainage not needed	
864: Pits, quarries-----	Not rated		Not rated		Not rated	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
885A:						
Virden-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Ponding	1.00
	saturated zone		saturated zone		Frost action	1.00
	Restricted	0.22	Ponding	1.00	Restricted	0.22
	permeability		Restricted	0.22	permeability	
			permeability			
Fosterburg-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Ponding	1.00
	saturated zone		saturated zone		Frost action	1.00
	Restricted	0.91	Ponding	1.00	Restricted	0.91
	permeability		Restricted	0.91	permeability	
			permeability			
894A:						
Herrick-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.22
	Restricted	0.22	Restricted	0.22	permeability	
	permeability		permeability			
Biddle-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.91
	Restricted	0.91	Restricted	0.91	permeability	
	permeability		permeability			
Piasa-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.99
	Restricted	0.99	Ponding	1.00	permeability	
	permeability		Restricted	0.99		
			permeability			
897C2:						
Bunkum-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to	1.00	Depth to	1.00	Slope	0.74
	saturated zone		saturated zone		Restricted	0.22
	Restricted	0.22	Restricted	0.22	permeability	
	permeability		permeability			
Atlas-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.99
	Restricted	0.99	Restricted	0.99	permeability	
	permeability		permeability		Slope	0.74
962D2:						
Sylvan-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
962D3:						
Sylvan-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
962E2:						
Sylvan-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
962F:						
Sylvan-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
962G:						
Sylvan-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
993A:						
Cowden-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.91
	Restricted	0.91	Ponding	1.00	permeability	
	permeability		Restricted	0.91		
			permeability			
Piasa-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.99
	Restricted	0.99	Ponding	1.00	permeability	
	permeability		Restricted	0.99		
			permeability			
3070A:						
Beaucoup-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Ponding	1.00
	saturated zone		saturated zone		Frost action	1.00
	Restricted	0.22	Ponding	1.00	Flooding	1.00
	permeability		Restricted	0.22	Restricted	0.22
			permeability		permeability	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3070L: Beaucoup-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Ponding Restricted permeability	1.00 0.22	Frost action Flooding Restricted permeability	1.00 1.00 0.22
3071L: Darwin-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.99	Ponding Restricted permeability	1.00 0.99	Frost action Flooding Restricted permeability	1.00 1.00 0.99
3074A: Radford-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action Flooding	1.00 1.00
3077A: Huntsville-----	Not limited		Not limited		Drainage not needed	
3107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3288A: Petrolia-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Ponding Restricted permeability	1.00 0.22	Frost action Flooding Restricted permeability	1.00 1.00 0.22
3333A: Wakeland-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Flooding	1.00 1.00
3336A: Wilbur-----	Very limited Water erosion Depth to saturated zone	1.00 0.95	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Flooding	1.00 1.00
3451A: Lawson-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action Flooding	1.00 1.00
3475A: Elsah-----	Very limited Content of large stones Droughty	1.00 1.00	Very limited Content of large stones	1.00	Drainage not needed	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3634A: Blyton-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Flooding	1.00 1.00
3641L: Quiver-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.22	Very limited Ponding Frost action Flooding Restricted permeability	1.00 1.00 1.00 0.22
7037B: Worthen-----	Not limited		Not limited		Drainage not needed	
7075B: Drury-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
7081A: Littleton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
7242A: Kendall-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
7338B2: Hurst-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.99	Very limited Depth to saturated zone Restricted permeability	1.00 0.99	Very limited Frost action Restricted permeability Slope	1.00 0.99 0.01
7432A: Geff-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
7434B: Ridgway-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
7457A: Booker-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00	Very limited Ponding Frost action Restricted permeability	1.00 1.00 1.00
8028A: Jules-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8070A: Beaucoup-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.22	Ponding Restricted permeability	1.00 0.22	Frost action Flooding Restricted permeability	1.00 1.00 0.22
8071A: Darwin-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.99	Ponding Restricted permeability	1.00 0.99	Frost action Flooding Restricted permeability	1.00 1.00 0.99
8180A: Dupo-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Restricted permeability	0.91	Restricted permeability	0.91	Restricted permeability	0.91
8248A: McFain-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00
	Restricted permeability	0.91	Ponding Restricted permeability	1.00 0.91	Frost action Flooding Restricted permeability	1.00 1.00 0.91
8284A: Tice-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
					Flooding	1.00
9278A: Stronghurst-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Very limited Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
9279B: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
9279C2: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Drainage not needed	
9279D3: Rozetta-----	Very limited Slope	1.00	Very limited Water erosion	1.00	Drainage not needed	
	Water erosion	1.00	Slope	1.00		
9962D3: Sylvan-----	Very limited Slope	1.00	Very limited Water erosion	1.00	Drainage not needed	
	Water erosion	1.00	Slope	1.00		

Table 18b.--Water Management--Continued

Map symbol and soil name	Grassed waterways		Terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9962D3: Bold-----	Very limited		Very limited		Drainage not needed	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		

Table 19.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8D2: Hickory-----	0-6	Loam	CL	A-4, A-6	0	0-5	95-100	90-100	90-100	75-95	20-35	8-15
	6-47	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	95-100	75-100	70-95	65-80	30-50	15-30
	47-80	Sandy loam, loam, gravelly clay loam	CL, CL-ML	A-4, A-6	0-1	0-5	85-100	75-95	70-95	60-80	20-40	5-20
8D3: Hickory-----	0-8	Clay loam	CL	A-7, A-6	0	0-5	95-100	90-100	80-95	70-85	35-45	15-25
	8-46	Clay loam, loam, gravelly clay loam	CL	A-7, A-6	0-1	0-5	95-100	75-100	70-95	65-80	35-45	15-25
	46-58	Clay loam, loam, gravelly clay loam	SC-SM, CL, ML, SC	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
	58-80	Loam, sandy loam, gravelly clay loam	CL, ML, SC, SC-SM	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	25-40	10-20
8F: Hickory-----	0-4	Silt loam	CL, ML, CL-ML	A-6, A-4	0	0-5	95-100	91-100	82-100	64-93	21-35	5-15
	4-12	Loam, silt loam	CL, ML	A-6, A-4	0	0-5	95-100	91-100	76-100	51-90	25-30	7-15
	12-46	Clay loam, loam, silty clay loam, gravelly clay loam	CL, ML, SC	A-6	0-1	0-5	85-100	70-100	60-100	40-90	31-40	11-18
	46-58	Loam, clay loam, gravelly clay loam	SC, CL, SC- SM, ML, CL- ML	A-6, A-4	0-1	0-5	85-100	70-100	53-100	36-84	25-40	6-16
	58-80	Loam, sandy loam, gravelly clay loam	CL, SC-SM, SC, ML, CL- ML	A-6, A-4	0-1	0-5	85-100	70-97	53-96	36-79	25-35	6-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8F2: Hickory-----	0-4	Loam	CL	A-4, A-6	0	0-5	95-100	90-100	90-100	75-95	20-35	8-15
	4-37	Clay loam, silty clay loam, gravelly clay loam	CL	A-7, A-6	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	37-60	Sandy loam, loam, gravelly clay loam	SC-SM, CL, CL-ML, SC	A-4, A-2, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8G: Hickory-----	0-4	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-6, A-4	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL	A-7, A-6	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	40-58	Loam, gravelly clay loam	SC-SM, SC, CL, CL-ML	A-4, A-2, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
16A: Rushville-----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	NP-15
	7-13	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	NP-15
	13-32	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-60	20-35
	32-50	Silty clay loam, silty clay	CL, CH, MH, ML	A-7-5, A-7-6	0	0	100	100	95-100	95-100	45-60	15-30
	50-80	Silt loam, silty clay loam	CL	A-7-6, A-6, A-4	0	0	100	100	95-100	90-100	30-45	8-20
17A: Keomah-----	0-11	Silt loam	ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	11-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-20
	18-33	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	45-55	25-30
	33-51	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-89	Silt loam	ML, CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
45A:												
Denny-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-40	8-15
	9-22	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	22-45	Silty clay loam, silty clay	CH, CL	A-7, A-6	0	0	100	100	95-100	95-100	35-60	15-35
	45-70	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	25-40	11-20
46A:												
Herrick-----	0-13	Silt loam	ML, CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-45	15-25
	13-39	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	49-60	30-35
	39-60	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	40-55	20-35
	60-80	Silt loam, loam, silty clay loam, clay loam	CL, ML	A-6	0	0	100	100	90-100	80-100	35-45	15-25
47A:												
Virden-----	0-15	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-45	15-25
	15-74	Silty clay loam, silty clay, silt loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	40-60	20-35
	74-80	Silt loam, silty clay loam	CL	A-7-6	0	0	100	100	95-100	90-100	35-50	15-30
50A:												
Virden-----	0-16	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	30-50	10-25
	16-49	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	40-60	20-40
	49-60	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	30-50	10-25
51A:												
Muscatune-----	0-16	Silt loam	ML, CL, CL-ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	4-14
	16-22	Silty clay loam, silt loam	ML, CL	A-6	0	0	100	100	97-100	95-100	35-40	14-20
	22-46	Silty clay loam	ML, CL	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	46-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18
61A:												
Atterberry-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-16
	9-17	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18
	17-48	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	95-100	37-46	16-25
	48-60	Silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
68A: Sable-----	0-17	Silty clay loam	CH, CL, MH, ML	A-7	0	0	100	100	95-100	95-100	30-55	10-25
	17-23	Silty clay loam	CH, CL, MH, ML	A-7	0	0	100	100	95-100	95-100	41-65	15-35
	23-60	Silty clay loam, silt loam	CL, CH	A-7	0	0	100	100	95-100	95-100	40-55	20-35
75C: Drury-----	0-7	Silt loam	ML, CL	A-4, A-6	0	0	100	95-100	95-100	90-100	25-35	10-15
	7-43	Silt loam	CL	A-4, A-6	0	0	100	95-100	95-100	90-100	30-35	10-15
	43-80	Silt loam	CL, ML	A-6, A-4	0	0	100	95-100	95-100	55-95	25-35	10-15
79B: Menfro-----	0-10	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	10-62	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-45	15-25
	62-80	Silt loam, silty clay loam	CL, CL-ML	A-6	0	0	100	100	95-100	90-100	25-40	5-20
79C2: Menfro-----	0-7	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	7-56	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-45	15-25
	56-80	Silt loam, silty clay loam	CL-ML, CL	A-6	0	0	100	100	95-100	90-100	25-40	5-20
79D2: Menfro-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-35	11-20
	8-44	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	20-25
	44-80	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
79D3: Menfro-----	0-4	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	25-41	11-20
	4-42	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	20-25
	42-80	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	25-35	5-15
79E2: Menfro-----	0-7	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-35	11-20
	7-59	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	20-25
	59-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
79F:												
Menfro-----	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	9-52	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	52-80	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
86B:												
Osc-----	0-14	Silt loam	ML, CL	A-6, A-4	0	0	100	100	100	95-100	35-45	7-20
	14-55	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	55-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-25
86C2:												
Osc-----	0-9	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	10-20
	9-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-50	15-25
	34-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	7-25
112A:												
Cowden-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-19	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	19-50	Silty clay loam, silty clay	CH	A-7-6	0	0	100	100	95-100	95-100	50-60	30-35
	50-58	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-40	9-20
	58-80	Silt loam, loam, silty clay loam, clay loam	CL, ML	A-6	0	0	100	100	90-100	80-100	35-45	15-25
113A:												
Oconee-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	16-47	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-60	30-35
	47-65	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-50	15-30
	65-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
113B: Oconee-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-16	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	16-47	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	90-100	50-60	30-35
	47-65	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	35-50	15-30
	65-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
119C2: Elco-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	8-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	31-60	Silty clay loam, loam, clay	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30
119C3: Elco-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	5-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	33-80	Silty clay loam, silty clay, clay loam, loam	CL	A-7, A-6	0	0	100	90-100	80-100	60-95	25-50	10-30
119D2: Elco-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	6-28	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	28-60	Silty clay loam, loam, clay	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30
119D3: Elco-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	5-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	33-80	Silty clay loam, silty clay, clay loam, loam	CL	A-7, A-6	0	0	100	90-100	80-100	60-95	25-50	10-30

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
127B:												
Harrison-----	0-10	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	30-40	8-15
	10-45	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	45-65	Silty clay loam, clay loam, loam, silt loam	CL	A-7, A-6	0	0-5	95-100	85-100	80-85	70-80	30-50	10-25
	65-80	Clay loam, clay, silty clay loam	CH, CL	A-6, A-7	0-1	0-5	95-100	85-100	80-95	70-90	35-55	15-30
259C2:												
Assumption-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	8-20
	8-24	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	10-30
	24-60	Clay loam, silty clay loam, clay	CL	A-7, A-6	0	0-5	100	95-100	90-100	70-90	35-50	20-35
267A:												
Caseyville-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
	7-16	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	16-62	Silty clay loam, silt loam	CL	A-4, A-6, A- 7-6	0	0	100	100	98-100	93-100	30-45	10-20
	62-80	Silt loam	CL	A-6, A-4	0	0	100	100	98-100	93-100	30-35	10-15
267B:												
Caseyville-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
	7-16	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	16-62	Silty clay loam, silt loam	CL	A-4, A-6, A- 7-6	0	0	100	100	98-100	93-100	30-45	10-20
	62-80	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	93-100	30-35	10-15
278A:												
Stronghurst-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	8-47	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-20
279B:												
Rozetta-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-35	8-15
	7-11	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-30	5-15
	11-55	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	55-60	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
279C2:												
Rozetta-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	8-56	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	56-80	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
279C3:												
Rozetta-----	0-6	Silty clay loam	CL, ML	A-7, A-6	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	7-20
279D2:												
Rozetta-----	0-6	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	6-49	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	49-60	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
279D3:												
Rozetta-----	0-6	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	7-20
280B:												
Fayette-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	9-39	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C:												
Fayette-----	0-9	Silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	30-45	10-25
	9-64	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C2:												
Fayette-----	0-8	Silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280C3:												
Fayette-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
280D:												
Fayette-----	0-13	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	13-38	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	38-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
280D2:												
Fayette-----	0-6	Silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	30-45	10-25
	6-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D3:												
Fayette-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	8-36	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	36-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
280E2:												
Fayette-----	0-4	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	4-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	60-77	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280F:												
Fayette-----	0-3	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-30	5-15
	10-45	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	45-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
434B:												
Ridgway-----	0-10	Silt loam	CL-ML, ML, CL	A-4	0	0	100	100	92-100	85-99	20-30	2-10
	10-30	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-100	37-47	16-23
	30-39	Clay loam, loam, sandy clay loam	CL, ML, SC	A-6	0	0	97-100	85-98	65-95	45-80	35-40	12-20
	39-80	Stratified loamy sand to sandy loam	SM, SC-SM	A-1-b, A-2-4	0	0	94-98	85-95	45-85	15-35	19-25	2-7

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
438B:												
Aviston-----	0-16	Silt loam	CL	A-6	0	0	100	100	95-100	93-100	25-35	10-15
	16-67	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	93-100	35-45	15-20
	67-80	Silt loam, loam, silty clay loam, clay loam	CL	A-6	0	0	100	98-100	90-100	85-100	30-40	10-20
477B:												
Winfield-----	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	9-13	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	15-20
	13-62	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	62-80	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
477B3:												
Winfield-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
	5-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	48-80	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	25-35	5-15
477C2:												
Winfield-----	0-6	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	6-50	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-45	15-25
	50-80	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-35	10-15
477C3:												
Winfield-----	0-7	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
	7-41	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	20-25
	41-80	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-35	10-15
477D2:												
Winfield-----	0-6	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	6-10	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-25
	10-53	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	20-25
	53-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
477D3:												
Winfield-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	35-45	15-20
	5-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	48-80	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-35	10-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
515B2: Bunkum-----	0-7	Silt loam	CL	A-7-6, A-4, A-6	0	0	100	100	98-100	95-100	25-41	5-15
	7-50	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-20
	50-65	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	25-35	9-15
	65-80	Silt loam	CL	A-4, A-6	0	0	99-100	95-100	90-100	85-100	25-35	9-15
515C2: Bunkum-----	0-7	Silt loam	CL	A-7-6, A-4, A-6	0	0	100	100	98-100	95-100	25-41	5-15
	7-50	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	98-100	95-100	35-45	15-20
	50-65	Silt loam	CL	A-6, A-4	0	0	100	100	98-100	95-100	25-35	9-15
	65-85	Silt loam	CL	A-4, A-6	0	0	99-100	95-100	90-100	85-100	25-35	9-15
515C3: Bunkum-----	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-20
	8-40	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	98-100	95-100	35-45	15-20
	40-58	Silt loam	CL	A-6, A-4	0	0	100	100	98-100	95-100	30-35	10-15
	58-80	Silt loam, loam, silty clay loam, clay loam	CL, ML	A-6	0	0	100	100	90-100	80-100	30-40	10-15
538B2: Emery-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	7-37	Silty clay loam, silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	37-55	Silty clay loam, silt loam, clay loam	CH, CL	A-7, A-7-6, A-6	0	0	100	100	95-100	80-100	35-55	15-30
	55-87	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	95-100	90-100	75-100	30-40	10-20
538C2: Emery-----	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	7-37	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	37-55	Silty clay loam, silt loam, clay loam	CH, CL	A-7-6, A-6, A-7	0	0	100	100	95-100	80-100	35-55	15-30
	55-87	Silty clay loam, silt loam, loam	CL	A-6, A-4	0	0	100	95-100	90-100	75-100	30-40	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
<b>582B:</b>												
Homen-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	30-35	10-15
	9-15	Silt loam	ML, CL	A-4, A-6	0	0	100	100	98-100	95-100	25-35	10-15
	15-58	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-20
	58-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-40	10-20
<b>675B:</b>												
Greenbush-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	60-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
<b>675C2:</b>												
Greenbush-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	6-46	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	46-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20
<b>701F:</b>												
Menfro-----	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-35	10-15
	9-52	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	52-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
<b>Hickory-----</b>												
	0-4	Silt loam	CL	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	30-35	10-15
	4-12	Silt loam, loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	25-30	5-15
	12-46	Clay loam, silty clay loam, loam, gravelly clay loam	CL	A-7, A-6	0-1	0-5	85-100	70-100	65-95	50-85	35-45	15-25
	46-58	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	25-40	5-20
	58-80	Loam, sandy loam, gravelly clay loam	CL-ML, SC-SM, SC, CL	A-6, A-4, A-2	0-1	0-5	85-100	70-95	45-95	25-75	25-40	5-20
<b>802E:</b>												
Orthents-----	0-6	Loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
	6-60	Loam, silt loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
833F:												
Menfro-----	0-10	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	70-100	25-35	5-20
	10-62	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	90-100	80-100	35-45	15-25
	62-80	Silt loam, silt	CL, CL-ML, ML	A-6, A-4	0	0	100	100	90-100	70-100	25-35	5-15
Goss-----	0-7	Gravelly silt loam	CL, CL-ML, ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	GM, SC, GC, GC-GM	A-2-4, A-2	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	GC, SC	A-7, A-2-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40
833F2:												
Menfro-----	0-7	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	70-100	25-35	5-20
	7-62	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	80-100	35-45	15-25
	62-80	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	70-100	25-35	5-15
Goss-----	0-7	Gravelly silt loam	CL, CL-ML, ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	GC, GC-GM, GM, SC	A-2, A-2-4	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	SC, GC	A-2-7, A-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
833G: Goss-----	0-7	Gravelly silt loam	ML, CL, CL-ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	GC-GM, SC, GC, GM	A-2, A-2-4	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	SC, GC	A-2-7, A-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40
Menfro-----	0-10	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	70-100	25-35	5-20
	10-62	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	90-100	80-100	35-45	15-25
	62-80	Silt loam, silt	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	70-100	25-35	5-15
836G: Hamburg-----	0-7	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	95-100	0-25	NP-5
	7-60	Silt loam, very fine sandy loam, silt	CL-ML, ML	A-4	0	0	100	100	100	95-100	0-25	NP-5
Lacrescent-----	0-21	Channery silt loam, gravelly silt loam	ML, CL	A-7, A-6	0	15-30	80-100	70-100	60-95	50-90	30-45	10-20
	21-38	Very gravelly silt loam, extremely cobbly fine sandy loam, very cobbly loam	ML, CL, SC, SM	A-6, A-1, A-2, A-4	0	30-55	55-80	45-80	40-65	20-60	20-35	3-12
	38-60	Extremely cobbly loam, very flaggy silt loam, very cobbly fine sandy loam	SM, CL, ML, SC	A-4, A-1, A-2, A-6, A-2-4	0	50-65	50-75	40-65	35-60	15-55	0-30	NP-12
837G: Rock outcrop, limestone.												

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
837G: Lacrescent-----	0-21	Channery silt loam, gravelly silt loam	CL, ML	A-6, A-7	0	15-30	80-100	70-100	60-95	50-90	30-45	10-20
	21-38	Very gravelly silt loam, extremely cobble fine sandy loam, very cobble loam	CL, ML, SC, SM	A-6, A-1, A- 2, A-4	0	30-55	55-80	45-80	40-65	20-60	20-35	3-12
	38-60	Extremely cobble loam, very flaggy silt loam, very cobble fine loam	SM, CL, ML, SC	A-2-4, A-1, A-2, A-4, A- 6	0	50-65	50-75	40-65	35-60	15-55	0-30	NP-12
838F: Fayette-----	0-3	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	3-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	10-45	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	45-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Goss-----	0-7	Gravelly silt loam	ML, CL, CL-ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	GC, SC, GC- GM, GM	A-2-4, A-2	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	GC, SC	A-2-7, A-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40
838F2: Fayette-----	0-7	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	90-100	70-100	20-30	5-15
	7-62	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	80-100	30-42	15-25
	62-80	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-100	15-25	NP-11

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
838F2: Goss-----	In											
	0-7	Gravelly silt loam	CL, CL-ML, ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	GM, SC, GC, GC-GM	A-2, A-2-4	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	SC, GC	A-2-7, A-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40
838G: Goss-----	0-7	Gravelly silt loam	CL, CL-ML, ML	A-4	0	0-10	65-85	65-75	65-75	65-75	20-30	2-10
	7-11	Very gravelly silty clay loam, gravelly silt loam, gravelly silty clay loam	SC, GC, GC-GM, GM	A-2, A-2-4	0-5	5-40	40-60	35-55	30-50	19-35	20-30	2-10
	11-80	Gravelly silty clay loam, very gravelly silty clay, very gravelly clay	GC, SC	A-2-7, A-7	0-5	5-45	45-70	20-65	20-50	20-45	50-70	30-40
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-30	5-15
	10-45	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	45-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
864. Pits, quarries												
885A: Virden-----	0-15	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	15-74	Silty clay loam, silty clay, silt loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	40-60	20-35
	74-80	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-100	35-50	15-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
885A:												
Fosterburg-----	0-13	Silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-25
	13-41	Silty clay loam, silty clay	CH	A-7-6	0	0	100	100	98-100	95-100	50-60	30-35
	41-71	Silty clay loam, silt loam	CL, CH	A-7-6	0	0	100	100	98-100	95-100	40-55	20-35
	71-80	Silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-25
894A:												
Herrick-----	0-13	Silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	90-100	35-45	15-25
	13-39	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	49-60	30-35
	39-60	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	40-55	20-35
	60-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
Biddle-----	0-16	Silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-25
	16-36	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	98-100	95-100	49-60	30-35
	36-76	Silty clay loam, silt loam	CH, CL	A-7-6, A-6	0	0	100	100	98-100	95-100	40-55	20-30
	76-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-50	15-30
Piasa-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-12	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	12-48	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-60	30-35
	48-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
897C2:												
Bunkum-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	25-40	5-15
	8-40	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-45	15-20
	40-58	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	95-100	25-35	9-15
	58-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	30-50	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>897C2:</b>												
Atlas-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-100	25-35	5-15
	9-31	Silty clay loam, clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	31-51	Silty clay loam, silty clay, clay loam, clay	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	51-80	Silty clay, clay loam, loam	CH, CL	A-6, A-7	0	0	95-100	90-98	90-98	65-95	35-55	20-30
<b>962D2:</b>												
Sylvan-----	0-5	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	6-15
	5-30	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-50	15-25
	30-80	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-35	5-15
<b>Bold-----</b>	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15
	12-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15
<b>962D3:</b>												
Sylvan-----	0-8	Silty clay loam	CL	A-6, A-7, A- 7-6	0	0	100	100	95-100	95-100	35-50	20-30
	8-31	Silty clay loam, silt loam	CL	A-7-6, A-7, A-6	0	0	100	100	95-100	95-100	35-50	20-30
	31-60	Silt loam, silt	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	20-40	5-20
<b>Bold-----</b>	0-8	Silt loam	ML, CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15
<b>962E2:</b>												
Sylvan-----	0-6	Silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	6-28	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	28-60	Silt loam, silt	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	20-40	5-20
<b>Bold-----</b>	0-8	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15
<b>962F:</b>												
Sylvan-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	6-15
	10-27	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-50	15-25
	27-80	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-35	5-15
<b>Bold-----</b>	0-7	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15
	7-60	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
962G:												
Sylvan-----	0-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	10-27	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	15-25
	27-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
Bold-----	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15
	7-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	20-35	3-15
993A:												
Cowden-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-19	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	19-50	Silty clay loam, silty clay	CH	A-7-6	0	0	100	100	95-100	95-100	50-60	30-35
	50-58	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-45	15-25
	58-80	Silt loam, loam, silty clay loam, clay loam	CL, ML	A-6	0	0	100	100	90-100	80-100	35-45	15-25
Piasa-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	8-12	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	35-45	15-25
	12-48	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-60	30-35
	48-80	Silt loam, loam, silty clay loam, clay loam	ML, CL	A-6	0	0	100	100	90-100	80-100	35-45	15-25
3070A:												
Beaucoup-----	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	16-64	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	64-80	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-7, A-4, A-6	0	0	100	100	90-100	65-95	20-41	5-25
3070L:												
Beaucoup-----	0-16	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	85-100	35-45	15-20
	16-64	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-45	15-20
	64-80	Stratified silty clay loam to very fine sandy loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
3071L:												
Darwin-----	0-16	Silty clay	CH, CL	A-7-6, A-7	0	0	100	100	100	90-100	45-70	25-45
	16-62	Silty clay, clay	CL, CH	A-7-6, A-7	0	0	100	100	100	85-100	45-75	25-50
	62-80	Silty clay, clay, silty clay loam	CH, CL	A-7, A-6, A- 7-6	0	0	100	100	95-100	90-100	35-70	20-45
3074A:												
Radford-----	0-12	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	30-40	5-15
	12-33	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-35	5-15
	33-80	Silt loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	100	100	95-100	70-95	35-50	15-25
3077A:												
Huntsville-----	0-43	Silt loam	CL	A-6	0	0	100	95-100	90-100	85-100	25-40	10-20
	43-60	Silt loam, loam	CL	A-6	0	0	100	95-100	90-100	85-100	20-35	10-20
3107A:												
Sawmill-----	0-10	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	10-32	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	32-58	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	58-65	Silty clay loam, clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
3288A:												
Petrolia-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	80-100	35-45	15-22
	8-55	Silty clay loam	CL	A-6, A-7	0	0	100	95-100	90-100	85-100	35-45	15-22
	55-80	Silty clay loam, silt loam	CL	A-6, A-4, A-7	0	0	100	95-100	80-100	60-100	20-45	8-22
3333A:												
Wakeland-----	0-8	Silt loam	ML, CL, CL-ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	8-68	Silt loam	ML, CL, CL-ML	A-4	0	0	100	100	90-100	80-100	20-30	5-10
	68-80	Silt loam, loam	CL, CL-ML, ML	A-4	0	0	100	100	85-100	60-100	20-30	5-10
3336A:												
Wilbur-----	0-7	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	70-100	20-30	5-10
	7-41	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	95-100	80-100	20-30	5-10
	41-65	Silt loam, loam	ML, CL, CL-ML	A-6, A-4	0	0	100	100	80-100	60-100	20-35	5-15
3451A:												
Lawson-----	0-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-100	20-35	5-15
	14-33	Silt loam, silty clay loam	CL-ML, CL	A-4	0	0	100	100	90-100	85-100	20-40	5-20
	33-80	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	90-100	60-100	30-40	10-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
3475A: Elsah-----	0-6	Gravelly loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	10-15	75-90	55-70	40-65	35-60	20-35	5-15
	6-12	Gravelly silt loam, very gravelly loam	CL, ML, SC, SM	A-4, A-6	0-5	10-30	50-90	35-70	35-65	35-60	15-30	3-15
	12-60	Very gravelly loam, gravelly loam, very gravelly sandy loam	CL, ML, SC, SM	A-2-4, A-2-6, A-4, A-6	0-10	10-65	45-85	30-70	25-65	20-60	0-25	NP-15
3634A: Blyton-----	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	3-9
	10-80	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-100	20-30	3-9
3641L: Quiver-----	0-9	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	85-100	20-45	15-25
	9-65	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	95-100	80-100	60-100	20-45	10-25
7037B: Worthen-----	0-30	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	80-100	25-30	5-15
	30-63	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	80-100	25-35	10-15
	63-80	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	80-100	25-35	10-15
7075B: Drury-----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	95-100	90-100	25-35	10-15
	7-43	Silt loam	CL	A-6, A-4	0	0	100	95-100	95-100	90-100	30-35	10-15
	43-80	Silt loam, loam	ML, CL	A-6, A-4	0	0	100	95-100	95-100	55-95	25-35	10-15
7081A: Littleton-----	0-15	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	30-35	10-15
	15-60	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	30-35	10-15
	60-80	Silt loam	CL, CL-ML	A-7, A-4, A-6	0	0	100	100	95-100	80-100	25-41	5-15
7242A: Kendall-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-95	20-35	5-15
	9-14	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	85-95	15-30	5-15
	14-54	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-45	10-20
	54-60	Stratified sandy loam to clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0-5	98-100	80-90	60-90	30-70	15-25	4-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>7338B2:</b>												
Hurst-----	0-3	Silty clay loam	CL, CH, MH	A-7-5, A-7-6	0	0	100	100	100	91-99	43-51	11-26
	3-41	Silty clay, clay	MH, CH	A-7-5, A-7-6	0	0	100	100	100	96-99	61-92	34-57
	41-80	Clay, silty clay	MH, CH	A-7-6, A-7-5	0	0	100	100	100	97-99	61-92	34-57
<b>7432A:</b>												
Geff-----	0-5	Silt loam	CL, CL-ML	A-6, A-4	0	0	95-100	95-100	95-100	95-100	25-35	5-15
	5-12	Silt loam, silty clay loam	CL, CL-ML	A-6, A-4	0	0	95-100	95-100	95-100	95-100	25-40	5-20
	12-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	90-100	35-45	15-25
	33-62	Silt loam, loam, sandy loam, clay loam	CL-ML, CL	A-4, A-6	0	0-2	90-100	80-100	70-100	50-90	25-40	5-20
	62-80	Stratified fine sandy loam to very fine sand	CL, SM, SP-SM	A-2, A-4, A- 2-4	0	0-1	90-100	85-100	70-85	12-50	0-30	NP-10
<b>7434B:</b>												
Ridgway-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	95-100	90-100	25-35	5-15
	8-27	Silty clay loam, silt loam	CL	A-6	0	0	100	95-100	95-100	90-100	30-45	15-25
	27-52	Clay loam, loam, sandy loam	SC-SM, CL, ML, SC	A-4, A-6	0	0	100	90-100	80-90	35-70	20-40	5-20
	52-80	Stratified fine sandy loam to very fine sand	SM, SP-SM	A-1-b, A-2, A-3	0	0	100	90-100	20-60	5-30	0-25	NP-10
<b>7457A:</b>												
Booker-----	0-29	Silty clay, clay	CH, MH	A-7-6, A-7-5	0	0	100	100	100	88-99	61-92	33-56
	29-60	Clay, silty clay	CH, MH	A-7-6, A-7-5	0	0	100	100	100	96-99	61-92	34-57
	60-80	Silty clay, clay	CH, MH	A-7-5, A-7-6	0	0	100	100	100	97-99	61-92	34-57
<b>8028A:</b>												
Jules-----	0-8	Silt loam	ML	A-4	0	0	100	100	90-100	80-90	27-36	4-10
	8-60	Silt loam, silt	ML	A-4	0	0	100	100	90-100	80-100	27-36	4-10
<b>8070A:</b>												
Beaucoup-----	0-15	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-25
	15-48	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	48-60	Stratified silt loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	25-45	5-25
	60-80	Stratified silt loam to silty clay loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	60-95	20-40	5-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8071A:												
Darwin-----	0-12	Silty clay	CH, CL	A-7-6, A-7	0	0	100	100	100	90-100	45-85	25-55
	12-40	Silty clay, clay	CH, CL	A-7-6, A-7	0	0	100	100	100	85-100	45-85	25-55
	40-80	Silty clay loam, silty clay	CH, CL	A-6, A-7, A- 7-6	0	0	100	100	95-100	90-100	35-70	20-45
8180A:												
Dupo-----	0-7	Silt loam	CL, CL-ML	A-4	0	0	100	100	100	95-100	20-30	5-10
	7-36	Silt loam, silt	CL, CL-ML	A-4	0	0	100	100	100	95-100	20-30	5-10
	36-85	Silty clay, clay, silty clay loam	CH	A-7-6	0	0	100	100	100	98-100	50-70	30-45
8248A:												
McFain-----	0-15	Silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	48-65	35-40
	15-66	Silt loam, loam, fine sandy loam	CL, CL-ML, SC, SC-SM	A-6, A-2, A-4	0	0	100	100	60-95	20-85	25-35	5-15
	66-80	Stratified silty clay loam to very fine sandy loam	CL, SC	A-6	0	0	100	90-100	50-90	35-85	0-40	NP-20
8284A:												
Tice-----	0-14	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	30-45	10-20
	14-80	Silty clay loam, silt loam	CL, CH	A-7	0	0	100	100	95-100	85-95	40-55	15-30
9278A:												
Stronghurst----	0-7	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	7-11	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	11-47	Silty clay loam, silt loam	CL, CH	A-7, A-7-6	0	0	100	100	100	98-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-20
9279B:												
Rozetta-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	9-66	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	66-76	Silt loam, silty clay loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	7-20
9279C2:												
Rozetta-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-66	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	66-70	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
9279D3:												
Rozetta-----	0-6	Silty clay loam	CL, ML	A-7, A-6	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	25-40	7-20
9962D3:												
Sylvan-----	0-8	Silty clay loam	CL	A-6, A-7, A-7-6	0	0	100	100	95-100	95-100	35-50	20-30
	8-31	Silty clay loam, silt loam	CL	A-7-6, A-7, A-6	0	0	100	100	95-100	95-100	35-50	20-30
	31-60	Silt loam, silt	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	20-40	5-20
Bold-----	0-8	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15

Table 20.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
8D2:														
Hickory-----	0-6	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	6-47	15-45	20-58	27-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	47-80	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
8D3:														
Hickory-----	0-8	20-40	30-50	27-35	1.40-1.65	0.6-2	0.17-0.19	3.0-5.9	0.2-1.0	.28	.32	4	6	48
	8-46	20-45	30-50	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.1-0.5	.28	.32			
	58-80	30-55	25-50	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.1-0.5	.28	.32			
8F:														
Hickory-----	0-4	10-30	50-78	12-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
	12-46	15-45	30-50	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.2-2	0.11-0.19	0.0-2.9	0.1-0.5	.28	.32			
	58-80	30-55	25-50	15-30	1.50-1.75	0.2-0.6	0.10-0.15	0.0-2.9	0.1-0.5	.28	.32			
8F2:														
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
	4-37	15-45	20-61	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	37-60	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
8G:														
Hickory-----	0-4	15-45	30-66	19-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
	12-40	15-45	20-58	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.28	.32			
	40-58	30-45	23-55	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.28	.32			
	58-63	30-45	25-55	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.0-0.5	.28	.32			
16A:														
Rushville-----	0-7	0-7	66-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-13	0-7	71-90	10-22	1.30-1.50	0.06-0.2	0.15-0.20	0.0-2.9	0.0-1.0	.55	.55			
	13-32	0-7	45-65	35-48	1.30-1.50	0.01-0.06	0.09-0.20	6.0-8.9	0.0-0.5	.37	.37			
	32-50	0-7	51-70	30-42	1.40-1.60	0.01-0.2	0.11-0.20	6.0-8.9	0.0-0.5	.37	.37			
	50-80	0-7	63-82	18-30	1.40-1.55	0.06-0.6	0.16-0.21	0.0-2.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>17A:</b>														
Keomah-----	0-11	0-7	67-84	16-26	1.35-1.45	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	11-18	0-7	67-84	16-26	1.40-1.60	0.2-0.6	0.17-0.21	0.0-2.9	0.1-1.0	.49	.49			
	18-33	0-7	51-65	35-42	1.30-1.40	0.06-0.2	0.15-0.19	6.0-8.9	0.1-0.5	.37	.37			
	33-51	0-7	58-73	27-35	1.35-1.45	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	51-89	0-7	66-85	15-27	1.40-1.60	0.2-2	0.19-0.22	0.0-2.9	0.0-0.2	.49	.49			
<b>45A:</b>														
Denny-----	0-9	0-7	66-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	9-22	0-7	71-85	15-22	1.25-1.45	0.2-0.6	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43			
	22-45	0-7	48-65	35-45	1.20-1.40	0.06-0.2	0.11-0.22	6.0-8.9	0.0-1.0	.37	.37			
	45-70	0-7	58-75	25-35	1.40-1.60	0.2-0.6	0.20-0.22	3.0-5.9	0.0-0.5	.43	.43			
<b>46A:</b>														
Herrick-----	0-13	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	13-39	1-7	51-63	32-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.2-1.0	.37	.37			
	39-60	1-7	55-73	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	60-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
<b>47A:</b>														
Virден-----	0-15	1-7	66-78	20-27	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.28	.28	5	6	48
	15-74	1-7	51-70	25-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.5	.37	.37			
	74-80	1-7	65-75	20-32	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.43	.43			
<b>50A:</b>														
Virден-----	0-16	0-7	58-73	27-35	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.24	.24	5	6	48
	16-49	0-7	51-65	35-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.0-2.0	.37	.37			
	49-60	0-7	60-75	25-33	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.0-0.5	.43	.43			
<b>51A:</b>														
Muscature-----	0-16	2-7	66-74	24-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-22	2-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	22-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	46-60	2-7	66-83	15-30	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.2	.49	.49			
<b>61A:</b>														
Atterberry-----	0-9	2-7	68-78	15-27	1.25-1.45	0.6-2	0.19-0.26	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-17	2-7	69-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	17-48	2-7	60-73	25-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-60	2-7	66-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>68A:</b>														
Sable-----	0-17	0-7	58-73	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	5.0-6.0	.24	.24	5	7	38
	17-23	0-7	58-73	27-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-4.0	.24	.24			
	23-60	0-7	58-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>75C:</b>														
Drury-----	0-7	1-15	70-80	15-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.49	.49	5	5	56
	7-43	1-15	65-80	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
	43-80	5-25	60-77	15-22	1.30-1.50	0.6-2	0.12-0.21	0.0-2.9	0.1-0.5	.49	.49			
<b>79B:</b>														
Menfro-----	0-10	1-7	68-80	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	10-62	1-7	62-70	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	62-80	1-7	65-80	15-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>79C2:</b>														
Menfro-----	0-7	1-7	68-80	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-56	1-7	62-70	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	56-80	1-7	68-80	15-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>79D2:</b>														
Menfro-----	0-8	0-7	66-80	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-44	0-7	60-73	27-36	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	44-80	0-7	73-80	8-20	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.55	.55			
<b>79D3:</b>														
Menfro-----	0-4	0-7	61-73	27-32	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	4-42	0-7	60-73	27-36	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	42-80	0-7	73-80	8-20	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.55	.55			
<b>79E2:</b>														
Menfro-----	0-7	1-7	66-85	12-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-59	1-7	63-72	27-33	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	59-80	1-7	73-85	8-20	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.55	.55			
<b>79F:</b>														
Menfro-----	0-9	1-7	68-80	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-52	1-7	62-70	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	52-80	1-7	68-80	15-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>86B:</b>														
Osc-----	0-14	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	14-55	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	55-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>86C2:</b>														
Osc-----	0-9	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	9-34	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	34-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>112A:</b>														
<b>Cowden</b> -----	0-8	1-7	68-80	17-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	3	6	48
	8-19	1-7	68-80	17-27	1.25-1.45	0.06-0.2	0.18-0.20	0.0-2.9	0.1-0.5	.49	.49			
	19-50	1-7	51-63	35-42	1.35-1.60	0.06-0.2	0.12-0.20	6.0-8.9	0.2-0.8	.37	.37			
	50-58	1-7	65-79	20-30	1.40-1.60	0.2-0.6	0.17-0.22	3.0-5.9	0.1-0.5	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
<b>113A:</b>														
<b>Oconee</b> -----	0-8	1-7	66-78	20-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-16	1-7	66-80	18-27	1.30-1.45	0.06-0.2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.8	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.2-0.5	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
<b>113B:</b>														
<b>Oconee</b> -----	0-8	1-7	66-78	20-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	8-16	1-7	66-80	18-27	1.30-1.45	0.06-0.2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49			
	16-47	1-7	51-63	35-42	1.30-1.50	0.06-0.2	0.11-0.17	6.0-8.9	0.2-0.8	.37	.37			
	47-65	1-7	58-78	20-35	1.40-1.60	0.06-0.2	0.16-0.21	3.0-5.9	0.1-0.5	.37	.37			
	65-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
<b>119C2:</b>														
<b>Elco</b> -----	0-8	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-31	0-7	58-77	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	31-60	15-35	20-60	25-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.2	.28	.28			
<b>119C3:</b>														
<b>Elco</b> -----	0-5	1-7	58-72	27-35	1.20-1.35	0.6-2	0.18-0.21	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	5-33	1-7	58-72	25-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	33-80	10-35	20-60	20-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.1-0.3	.28	.28			
<b>119D2:</b>														
<b>Elco</b> -----	0-6	0-7	66-80	20-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-28	0-7	58-77	23-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
	28-60	15-35	20-60	25-45	1.45-1.70	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.2	.28	.28			
<b>119D3:</b>														
<b>Elco</b> -----	0-5	1-7	58-72	27-35	1.20-1.35	0.6-2	0.18-0.21	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	5-33	1-7	58-72	25-35	1.25-1.45	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	33-80	10-35	20-60	20-45	1.40-1.60	0.06-0.6	0.16-0.20	6.0-8.9	0.1-0.3	.28	.28			
<b>127B:</b>														
<b>Harrison</b> -----	0-10	0-5	68-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	10-45	0-5	60-75	25-35	1.25-1.40	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	45-65	5-30	45-75	20-35	1.30-1.45	0.6-2	0.14-0.20	3.0-5.9	0.0-0.2	.37	.37			
	65-80	5-30	30-65	30-50	1.50-1.70	0.06-0.2	0.10-0.19	6.0-8.9	0.0-0.2	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>259C2:</b>														
Assumption-----	0-8	0-7	66-80	20-27	1.25-1.45	0.6-2	0.23-0.25	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	8-24	0-7	58-75	25-35	1.20-1.40	0.6-2	0.18-0.22	3.0-5.9	0.0-1.0	.37	.37			
	24-60	15-35	25-50	30-45	1.45-1.65	0.06-0.6	0.14-0.20	6.0-8.9	0.0-0.5	.28	.28			
<b>267A:</b>														
Caseyville-----	0-7	1-7	68-80	18-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-16	1-7	68-80	15-30	1.30-1.40	0.6-2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49			
	16-62	1-7	61-75	20-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	62-80	1-7	68-80	18-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>267B:</b>														
Caseyville-----	0-7	1-7	68-80	18-27	1.20-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-16	1-7	68-80	15-30	1.30-1.40	0.6-2	0.20-0.22	3.0-5.9	0.1-0.5	.49	.49			
	16-62	1-7	61-75	20-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-0.8	.37	.37			
	62-80	1-7	68-80	18-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>278A:</b>														
Stronghurst-----	0-8	1-5	68-79	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-47	1-4	61-77	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	47-60	1-4	69-79	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279B:</b>														
Rozetta-----	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	11-55	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	55-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>279C2:</b>														
Rozetta-----	0-8	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-56	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	56-80	0-7	63-80	20-30	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279C3:</b>														
Rozetta-----	0-6	0-7	58-72	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	6-33	0-7	58-73	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.5	.37	.37			
	33-60	0-7	66-84	15-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279D2:</b>														
Rozetta-----	0-6	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-49	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	49-60	0-7	66-80	20-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>279D3:</b>														
Rozetta-----	0-6	0-7	58-72	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	6-33	0-7	58-73	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.5	.37	.37			
	33-60	0-7	66-84	15-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>280B:</b>														
Fayette-----	0-9	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-39	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	39-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280C:</b>														
Fayette-----	0-9	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-3.0	.43	.43	5	6	48
	9-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280C2:</b>														
Fayette-----	0-8	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280C3:</b>														
Fayette-----	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	8-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280D:</b>														
Fayette-----	0-13	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	13-38	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	38-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280D2:</b>														
Fayette-----	0-6	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-48	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	48-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280D3:</b>														
Fayette-----	0-8	0-7	61-73	27-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	8-36	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	36-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>280E2:</b>														
Fayette-----	0-4	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	4-60	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	60-77	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>280F:</b>														
Fayette-----	0-3	0-7	66-85	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	3-10	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	10-45	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	45-60	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>434B:</b>														
Ridgway-----	0-10	1-20	64-87	10-20	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-30	1-18	50-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	30-39	30-50	22-43	25-30	1.50-1.70	0.6-2	0.13-0.17	3.0-5.9	0.0-0.5	.32	.32			
	39-80	70-85	5-22	5-14	1.55-1.75	2-6	0.07-0.11	0.0-2.9	0.0-0.3	.15	.15			
<b>438B:</b>														
Aviston-----	0-16	1-7	70-80	15-27	1.25-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	16-67	1-7	58-75	24-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	67-80	5-30	45-70	15-30	1.35-1.60	0.6-2	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
<b>477B:</b>														
Winfield-----	0-9	1-7	66-78	20-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-13	1-7	65-75	22-30	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.1-0.5	.49	.49			
	13-62	1-7	62-70	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.1-0.5	.37	.37			
	62-80	1-7	66-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>477B3:</b>														
Winfield-----	0-5	1-7	60-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	5-48	1-7	62-70	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-80	1-7	66-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>477C2:</b>														
Winfield-----	0-6	1-7	66-78	20-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	6-50	1-7	62-70	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.1-0.5	.37	.37			
	50-80	1-7	66-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>477C3:</b>														
Winfield-----	0-7	0-7	63-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	7-41	0-7	58-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	41-80	0-7	66-80	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>477D2:</b>														
Winfield-----	0-6	1-7	66-85	12-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	6-10	1-7	65-77	22-30	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-1.0	.37	.37			
	10-53	1-7	65-75	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	53-80	1-7	66-85	8-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>477D3:</b>														
Winfield-----	0-5	1-7	60-72	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	5-48	1-7	62-70	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-80	1-7	66-78	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>515B2:</b>														
Bunkum-----	0-7	0-4	70-82	18-26	1.25-1.35	0.2-0.6	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-50	0-4	61-75	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.37	.37			
	50-65	8-15	58-74	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	65-80	8-15	58-77	15-27	1.30-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37			
<b>515C2:</b>														
Bunkum-----	0-7	0-7	67-82	18-26	1.25-1.35	0.2-0.6	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-50	0-7	58-75	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.0-0.5	.37	.37			
	50-65	8-25	48-74	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	65-85	8-25	48-77	15-27	1.30-1.55	0.2-0.6	0.18-0.22	0.0-2.9	0.0-0.5	.37	.37			
<b>515C3:</b>														
Bunkum-----	0-8	1-7	58-72	27-35	1.25-1.35	0.2-0.6	0.20-0.24	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	8-40	1-7	58-72	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.2-0.8	.37	.37			
	40-58	1-7	68-80	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.2-0.8	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
<b>538B2:</b>														
Emery-----	0-7	0-7	67-80	20-26	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	7-37	0-7	60-75	20-35	1.40-1.60	0.6-2	0.21-0.24	3.0-5.9	0.0-0.5	.37	.37			
	37-55	8-25	45-70	20-30	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-0.5	.37	.37			
	55-87	8-25	45-70	18-35	1.40-1.65	0.6-2	0.14-0.24	0.0-2.9	0.0-0.5	.37	.37			
<b>538C2:</b>														
Emery-----	0-7	0-7	67-80	20-26	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	7-37	0-7	60-75	20-35	1.40-1.60	0.6-2	0.21-0.24	3.0-5.9	0.0-0.5	.37	.37			
	37-55	8-25	45-70	20-30	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.0-0.5	.37	.37			
	55-87	8-25	45-70	18-35	1.40-1.65	0.6-2	0.14-0.24	0.0-2.9	0.0-0.5	.37	.37			
<b>582B:</b>														
Homen-----	0-9	1-7	66-80	18-27	1.20-1.65	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-15	1-7	66-80	15-27	1.35-1.65	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	15-58	1-7	58-75	24-35	1.40-1.70	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.37	.37			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
<b>675B:</b>														
Greenbush-----	0-14	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	14-60	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	60-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>675C2:</b>														
<b>Greenbush</b> -----	0-6	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	6-46	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	46-60	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>701F:</b>														
<b>Menfro</b> -----	0-9	1-7	68-80	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-52	1-7	62-70	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	52-80	1-7	68-80	15-30	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>Hickory</b> -----	0-4	10-30	45-70	18-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	4-12	15-45	33-70	15-22	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.37	.37			
	12-46	15-45	30-50	24-35	1.45-1.65	0.6-2	0.15-0.19	3.0-5.9	0.1-0.5	.28	.32			
	46-58	25-49	28-50	15-32	1.50-1.70	0.6-2	0.11-0.19	0.0-2.9	0.1-0.5	.28	.32			
	58-80	30-55	25-50	15-30	1.50-1.75	0.6-2	0.10-0.15	0.0-2.9	0.1-0.5	.28	.32			
<b>802E:</b>														
<b>Orthents</b> -----	0-6	30-45	25-48	22-30	1.70-1.75	0.2-0.6	0.18-0.22	3.0-5.9	0.2-2.0	.43	.43	5	6	48
	6-60	30-45	25-50	20-30	1.70-1.80	0.2-0.6	0.16-0.20	3.0-5.9	0.2-1.0	.43	.43			
<b>833F:</b>														
<b>Menfro</b> -----	0-10	1-7	66-81	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-62	1-7	60-75	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	62-80	1-7	68-85	8-25	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
<b>Goss</b> -----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-3.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
<b>833F2:</b>														
<b>Menfro</b> -----	0-7	1-7	66-81	18-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-62	1-7	60-75	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	62-80	1-7	68-85	8-25	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
<b>Goss</b> -----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-2.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
<b>833G:</b>														
<b>Goss</b> -----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-3.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
<b>Menfro</b> -----	0-10	1-7	66-85	12-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-62	1-7	60-75	24-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	62-80	1-7	68-85	8-25	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>836G:</b>														
Hamburg-----	0-7	10-20	65-85	5-15	1.20-1.30	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	7-60	10-50	45-87	3-12	1.20-1.30	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.55	.55			
Lacrescent-----	0-21	15-32	50-67	18-27	1.25-1.40	0.6-2	0.15-0.22	0.0-2.9	3.0-5.0	.32	.37	5	7	38
	21-38	20-60	28-72	8-23	1.30-1.50	0.6-6	0.06-0.09	0.0-2.9	0.5-2.0	.43	.49			
	38-60	20-60	28-72	8-20	1.30-1.50	2-6	0.05-0.08	0.0-2.9	0.0-0.5	.37	.49			
<b>837G:</b>														
Rock outcrop, limestone.														
Lacrescent-----	0-21	15-32	50-67	18-27	1.25-1.40	0.6-2	0.15-0.22	0.0-2.9	3.0-5.0	.32	.37	5	7	38
	21-38	20-60	28-72	8-23	1.30-1.50	0.6-6	0.06-0.09	0.0-2.9	0.5-2.0	.43	.49			
	38-60	20-60	28-72	8-20	1.30-1.50	2-6	0.05-0.08	0.0-2.9	0.0-0.5	.37	.49			
<b>838F:</b>														
Fayette-----	0-3	1-7	66-84	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	3-10	1-7	66-87	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	10-45	1-7	58-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	45-60	1-7	67-77	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
Goss-----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-3.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
<b>838F2:</b>														
Fayette-----	0-7	1-7	60-85	12-27	1.25-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-62	1-7	60-79	20-33	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	62-80	1-7	73-85	12-20	1.30-1.45	0.6-2	0.20-0.22	0.0-2.9	0.0-0.2	.55	.55			
Goss-----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-2.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
<b>838G:</b>														
Goss-----	0-7	10-25	48-80	10-27	1.10-1.30	2-6	0.06-0.17	0.0-2.9	1.0-3.0	.28	.32	2	6	48
	7-11	5-25	45-75	20-30	1.10-1.30	2-6	0.06-0.10	0.0-2.9	0.0-0.1	.32	.37			
	11-80	5-20	0-60	35-80	1.30-1.50	0.6-2	0.04-0.09	3.0-5.9	0.0-0.5	.15	.17			
Fayette-----	0-3	1-7	66-84	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	3-10	1-7	66-87	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	10-45	1-7	58-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	45-60	1-7	67-77	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
864. Pits, quarries														
885A: Virден-----	0-15	1-7	66-78	20-27	1.20-1.40	0.6-2	0.21-0.24	3.0-5.9	3.0-6.0	.28	.28	5	6	48
	15-74	1-7	51-70	25-42	1.20-1.45	0.2-0.6	0.11-0.20	6.0-8.9	0.5-1.5	.37	.37			
	74-80	1-7	65-75	20-32	1.25-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.1-0.5	.49	.49			
Fosterburg-----	0-13	1-7	66-78	20-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	4.0-6.0	.28	.28	4	6	48
	13-41	1-7	51-64	35-42	1.25-1.45	0.06-0.2	0.16-0.20	6.0-8.9	1.0-2.0	.37	.37			
	41-71	1-7	56-70	24-40	1.30-1.50	0.06-0.2	0.18-0.22	6.0-8.9	0.5-1.0	.37	.37			
	71-80	1-7	66-80	18-27	1.30-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
894A: Herrick-----	0-13	1-7	66-78	20-27	1.15-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	13-39	1-7	51-63	32-42	1.20-1.40	0.2-0.6	0.12-0.17	6.0-8.9	0.2-1.0	.37	.37			
	39-60	1-7	55-73	25-40	1.20-1.40	0.2-0.6	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	60-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			
Biddle-----	0-16	1-7	66-80	18-27	1.15-1.35	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	16-36	1-7	51-63	35-42	1.25-1.45	0.06-0.2	0.14-0.20	6.0-8.9	0.2-0.8	.37	.37			
	36-76	1-7	55-75	20-38	1.30-1.50	0.06-0.2	0.16-0.22	6.0-8.9	0.2-0.8	.37	.37			
	76-80	5-30	45-70	18-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.5	.37	.37			
Piasa-----	0-8	1-7	66-80	18-27	1.25-1.45	0.2-0.6	0.22-0.24	3.0-5.9	2.0-4.0	.37	.37	3	6	48
	8-12	1-7	66-80	18-27	1.30-1.50	0.06-0.2	0.18-0.20	3.0-5.9	0.2-0.8	.49	.49			
	12-48	1-7	50-63	35-43	1.35-1.55	0.01-0.06	0.09-0.10	6.0-8.9	0.2-0.8	.37	.37			
	48-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.12	0.0-2.9	0.1-0.5	.37	.37			
897C2: Bunkum-----	0-8	0-7	67-82	18-26	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-40	0-7	58-75	25-35	1.25-1.45	0.2-0.6	0.16-0.22	3.0-5.9	0.5-1.0	.37	.37			
	40-58	8-25	48-74	18-27	1.30-1.50	0.2-0.6	0.18-0.22	0.0-2.9	0.5-1.0	.37	.37			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.0-0.5	.37	.37			
Atlas-----	0-9	5-30	43-75	20-27	1.30-1.50	0.2-0.6	0.20-0.25	3.0-5.9	1.0-2.0	.32	.32	3	6	48
	9-31	10-35	20-55	35-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	31-51	10-35	20-60	30-45	1.35-1.55	0.01-0.06	0.07-0.19	6.0-8.9	0.0-1.0	.28	.28			
	51-80	15-40	20-50	25-45	1.35-1.60	0.06-0.2	0.07-0.18	3.0-5.9	0.0-1.0	.28	.28			
962D2: Sylvan-----	0-5	1-10	65-80	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	5-30	1-15	60-70	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	30-80	1-15	70-85	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>962D2:</b>														
<b>Bold-----</b>	0-12	1-10	75-85	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	12-60	1-15	75-85	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
<b>962D3:</b>														
<b>Sylvan-----</b>	0-8	0-7	61-73	27-32	1.25-1.45	0.6-2	0.20-0.22	3.0-5.9	0.2-1.0	.37	.37	4	7	38
	8-31	0-7	58-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	31-60	0-7	66-90	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>Bold-----</b>	0-8	0-10	72-88	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	0.2-1.0	.55	.55	4	4L	86
	8-60	0-10	72-88	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-0.5	.55	.55			
<b>962E2:</b>														
<b>Sylvan-----</b>	0-6	1-10	61-73	25-32	1.25-1.45	0.6-2	0.20-0.22	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	6-28	1-10	58-74	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	28-60	1-10	66-89	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>Bold-----</b>	0-8	1-10	72-87	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	8-60	1-10	72-87	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-0.5	.55	.55			
<b>962F:</b>														
<b>Sylvan-----</b>	0-10	1-10	65-80	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	10-27	1-10	60-70	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	27-80	1-10	70-85	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>Bold-----</b>	0-7	1-10	75-85	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	7-60	1-15	75-85	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
<b>962G:</b>														
<b>Sylvan-----</b>	0-10	1-10	65-80	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	10-27	1-10	60-70	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.8	.37	.37			
	27-80	1-10	70-85	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>Bold-----</b>	0-7	1-10	75-85	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	7-60	1-15	75-85	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.1-0.5	.55	.55			
<b>993A:</b>														
<b>Cowden-----</b>	0-8	1-7	68-80	17-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	3	6	48
	8-19	1-7	68-80	17-27	1.25-1.45	0.06-0.2	0.18-0.20	0.0-2.9	0.1-0.5	.49	.49			
	19-50	1-7	51-63	35-42	1.35-1.60	0.06-0.2	0.12-0.20	6.0-8.9	0.2-0.8	.37	.37			
	50-58	1-7	65-79	20-30	1.40-1.60	0.2-0.6	0.17-0.22	3.0-5.9	0.1-0.5	.49	.49			
	58-80	5-30	45-70	20-30	1.40-1.60	0.2-0.6	0.17-0.22	0.0-2.9	0.1-0.3	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
993A:														
Piassa-----	0-8	1-7	66-80	18-27	1.25-1.45	0.2-0.6	0.22-0.24	3.0-5.9	2.0-4.0	.37	.37	3	6	48
	8-12	1-7	66-80	18-27	1.30-1.50	0.06-0.2	0.18-0.20	3.0-5.9	0.2-0.8	.49	.49			
	12-48	1-7	50-63	35-43	1.35-1.55	0.01-0.06	0.09-0.10	6.0-8.9	0.2-0.8	.37	.37			
	48-80	5-30	45-70	20-30	1.40-1.60	0.06-0.2	0.10-0.12	0.0-2.9	0.1-0.5	.37	.37			
3070A:														
Beaucoup-----	0-16	1-15	55-70	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	16-64	1-15	55-70	27-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	1.0-2.0	.32	.32			
	64-80	5-55	35-70	10-30	1.35-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			
3070L:														
Beaucoup-----	0-16	1-15	55-70	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	16-64	1-15	55-70	27-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	1.0-2.0	.32	.32			
	64-80	5-55	35-70	10-30	1.40-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.5-1.0	.32	.32			
3071L:														
Darwin-----	0-16	1-10	40-58	40-55	1.20-1.40	0.01-0.06	0.11-0.14	9.0-25.0	4.0-5.0	.24	.24	5	4	86
	16-62	1-10	35-50	45-60	1.30-1.50	0.01-0.06	0.11-0.14	9.0-25.0	0.5-1.5	.28	.28			
	62-80	5-15	35-60	30-55	1.40-1.60	0.06-0.2	0.10-0.20	6.0-8.9	0.2-0.8	.28	.28			
3074A:														
Radford-----	0-12	0-15	58-82	18-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	6	48
	12-33	0-15	58-82	18-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-2.0	.49	.49			
	33-80	5-30	35-71	24-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
3077A:														
Huntsville-----	0-43	0-15	58-82	18-27	1.15-1.35	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.32	.32	5	6	48
	43-60	5-30	43-77	18-27	1.20-1.40	0.6-2	0.20-0.22	3.0-5.9	0.2-0.5	.49	.49			
3107A:														
Sawmill-----	0-10	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28	5	6	48
	10-32	3-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.5-7.0	.28	.28			
	32-58	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.32	.32			
	58-65	5-25	40-70	25-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.32	.32			
3288A:														
Petrolia-----	0-8	3-25	40-70	27-35	1.20-1.40	0.2-0.6	0.21-0.23	3.0-5.9	2.0-3.0	.32	.32	5	6	48
	8-55	5-25	40-68	27-35	1.35-1.45	0.2-0.6	0.18-0.20	3.0-5.9	0.2-1.0	.32	.32			
	55-80	5-40	40-80	15-35	1.40-1.60	0.2-0.6	0.18-0.20	3.0-5.9	0.2-1.0	.32	.32			
3333A:														
Wakeland-----	0-8	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-68	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.2-0.8	.55	.55			
	68-80	5-45	45-75	10-20	1.30-1.50	0.6-2	0.18-0.24	0.0-2.9	0.1-0.5	.55	.55			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
3336A: Wilbur-----	0-7	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-41	5-15	70-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.2-0.8	.49	.49			
	41-65	5-45	45-70	10-26	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
3451A: Lawson-----	0-14	0-15	58-90	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	14-33	0-15	55-90	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.55-1.65	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.49	.49			
3475A: Elsah-----	0-6	30-52	30-50	10-20	1.40-1.60	0.6-2	0.13-0.18	0.0-2.9	1.0-2.0	.28	.32	5	6	48
	6-12	20-50	40-70	8-18	1.30-1.50	0.6-2	0.08-0.17	0.0-2.9	0.0-0.5	.28	.32			
	12-60	32-52	28-50	5-18	1.50-1.75	2-20	0.05-0.10	0.0-2.9	0.0-0.5	.28	.32			
3634A: Blyton-----	0-10	5-20	62-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-80	5-20	62-80	10-18	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	0.5-2.0	.55	.55			
3641L: Quiver-----	0-9	0-15	50-73	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	9-65	0-15	50-73	20-35	1.40-1.50	0.2-0.6	0.18-0.22	0.3-5.9	0.0-1.0	.32	.32			
7037B: Worthen-----	0-30	0-15	63-88	12-22	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	30-63	0-15	59-85	15-26	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.49	.49			
	63-80	10-25	51-75	15-26	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
7075B: Drury-----	0-7	1-15	70-80	15-25	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.49	.49	5	5	56
	7-43	1-15	65-80	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-0.5	.49	.49			
	43-80	5-33	45-77	15-22	1.30-1.50	0.6-2	0.12-0.21	0.0-2.9	0.1-0.3	.49	.49			
7081A: Littleton-----	0-15	1-15	65-80	18-27	1.20-1.45	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
	15-60	1-13	65-75	22-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.49	.49			
	60-80	5-22	60-75	18-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
7242A: Kendall-----	0-9	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-14	0-10	65-82	18-25	1.25-1.45	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	14-54	0-10	55-73	27-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	54-60	42-65	7-30	5-28	1.55-1.70	0.6-2	0.11-0.20	0.0-2.9	0.0-0.5	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>7338B2:</b>														
Hurst-----	0-3	1-6	55-65	33-39	1.25-1.70	0.2-0.6	0.22-0.24	0.0-2.9	1.0-3.0	.28	.28	3	6	48
	3-41	1-3	23-44	50-75	1.45-1.75	0.01-0.06	0.10-0.17	6.0-8.9	0.1-1.0	.32	.32			
	41-80	1-3	23-46	50-75	1.45-1.75	0.01-0.06	0.10-0.18	6.0-8.9	0.1-1.0	.32	.32			
<b>7432A:</b>														
Geff-----	0-5	1-10	65-80	18-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	5-12	1-10	60-80	18-30	1.35-1.45	0.6-2	0.20-0.22	0.0-2.9	0.2-0.8	.49	.49			
	12-33	1-10	55-75	24-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	33-62	15-50	35-60	15-30	1.40-1.75	0.6-2	0.15-0.18	0.0-2.9	0.5-1.0	.32	.32			
	62-80	65-85	1-25	2-14	1.55-1.75	6-20	0.03-0.08	0.0-2.9	0.1-0.5	.15	.15			
<b>7434B:</b>														
Ridgway-----	0-8	1-10	70-80	14-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	8-27	1-10	60-75	22-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-0.8	.37	.37			
	27-52	15-50	40-60	10-30	1.45-1.65	0.6-6	0.11-0.18	0.0-2.9	0.2-0.8	.32	.32			
	52-80	66-85	1-20	2-14	1.55-1.85	6-20	0.05-0.10	0.0-2.9	0.1-0.5	.15	.15			
<b>7457A:</b>														
Booker-----	0-29	1-16	23-41	50-75	1.30-1.50	0.01-0.06	0.11-0.14	9.0-25.0	1.0-3.0	.17	.17	5	4	86
	29-60	1-8	23-44	50-75	1.30-1.50	0.01-0.06	0.09-0.14	9.0-25.0	0.2-1.0	.32	.32			
	60-80	1-2	23-46	50-75	1.30-1.50	0.01-0.06	0.09-0.11	9.0-25.0	0.2-1.0	.37	.37			
<b>8028A:</b>														
Jules-----	0-8	0-15	72-86	10-20	1.15-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	8-60	0-15	72-86	10-18	1.20-1.50	0.6-2	0.17-0.22	0.0-2.9	0.0-0.5	.55	.55			
<b>8070A:</b>														
Beaucoup-----	0-15	0-15	55-70	27-35	1.15-1.35	0.2-0.6	0.15-0.20	3.0-5.9	5.0-6.0	.28	.28	5	6	48
	15-48	0-15	55-70	27-35	1.30-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-2.0	.32	.32			
	48-60	5-45	40-70	15-30	1.35-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.0-1.0	.32	.32			
	60-80	5-45	40-70	10-30	1.40-1.65	0.2-0.6	0.18-0.22	3.0-5.9	0.0-1.0	.32	.32			
<b>8071A:</b>														
Darwin-----	0-12	1-10	45-58	40-45	1.20-1.40	0.01-0.06	0.11-0.14	9.0-25.0	4.0-5.0	.28	.28	5	4	86
	12-40	1-10	35-50	45-60	1.30-1.50	0.01-0.06	0.11-0.14	9.0-25.0	0.0-2.0	.28	.28			
	40-80	5-15	35-60	30-55	1.40-1.60	0.06-0.2	0.10-0.20	6.0-8.9	0.0-0.5	.32	.32			
<b>8180A:</b>														
Dupo-----	0-7	1-10	72-89	10-18	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	7-36	2-10	72-88	10-18	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.55	.55			
	36-85	5-10	35-60	35-55	1.35-1.60	0.06-0.2	0.08-0.19	6.0-8.9	0.0-1.0	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>8248A:</b>														
McFain-----	0-15	1-15	40-59	40-50	1.20-1.40	0.06-0.2	0.12-0.18	6.0-8.9	3.0-5.0	.24	.24	5	4	86
	15-66	20-50	35-55	15-25	1.45-1.65	0.2-2	0.12-0.22	0.0-2.9	0.2-1.0	.32	.32			
	66-80	25-60	10-45	5-30	1.45-1.65	0.2-2	0.14-0.20	3.0-5.9	0.1-0.5	.32	.32			
<b>8284A:</b>														
Tice-----	0-14	1-15	50-72	27-35	1.25-1.45	0.6-2	0.21-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
	14-80	1-15	50-75	24-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.0-1.0	.32	.32			
<b>9278A:</b>														
Stronghurst-----	0-7	0-7	66-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	7-11	0-7	66-80	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.49	.49			
	11-47	0-7	58-78	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	47-60	0-7	66-80	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>9279B:</b>														
Rozetta-----	0-9	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-66	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	66-76	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>9279C2:</b>														
Rozetta-----	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	7-66	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	66-70	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>9279D3:</b>														
Rozetta-----	0-6	1-7	58-72	27-35	1.30-1.45	0.6-2	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37	4	6	48
	6-33	1-7	58-72	27-35	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-0.5	.37	.37			
	33-60	1-7	66-84	15-27	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>9962D3:</b>														
Sylvan-----	0-8	1-15	61-72	27-32	1.25-1.45	0.6-2	0.20-0.22	3.0-5.9	0.2-1.0	.43	.43	4	6	48
	8-31	1-15	58-74	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	31-60	1-15	66-89	10-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			
<b>Bold-----</b>														
	0-8	1-15	72-87	12-18	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	0.2-1.0	.43	.43	4	4L	86
	8-60	1-15	72-87	12-18	1.10-1.30	0.6-2	0.20-0.24	0.0-2.9	0.0-0.5	.55	.55			

Table 21.--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	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
8D2:						
Hickory-----	0-6	14-19	---	4.5-7.3	0	0
	6-47	16-22	---	4.5-7.3	0	0
	47-80	9.0-19	---	5.1-8.4	0-15	0
8D3:						
Hickory-----	0-8	17-23	---	4.5-7.3	0	0
	8-46	16-22	---	4.5-6.0	0	0
	46-58	9.0-19	---	5.1-7.3	0	0
	58-80	5.0-15	---	5.6-8.4	0-25	0
8F:						
Hickory-----	0-4	6.5-14	---	4.5-7.3	0	0
	4-12	7.8-12	---	4.5-7.3	0	0
	12-46	12-18	---	4.5-6.0	0	0
	46-58	7.8-17	---	5.1-7.3	0	0
	58-80	7.8-16	---	5.6-8.4	0-25	0
8F2:						
Hickory-----	0-4	14-19	---	4.5-7.3	0	0
	4-37	16-22	---	4.5-7.3	0	0
	37-60	9.0-19	---	5.1-7.8	0-25	0
8G:						
Hickory-----	0-4	14-19	---	4.5-7.3	0	0
	4-12	9.0-14	---	4.5-7.3	0	0
	12-40	12-19	---	4.5-7.3	0	0
	40-58	9.0-19	---	5.1-7.8	0-15	0
	58-63	5.0-15	---	5.6-8.4	0-25	0
16A:						
Rushville-----	0-7	4.0-17	---	4.5-7.3	0	0
	7-13	3.0-13	---	4.5-7.3	0	0
	13-32	20-33	---	4.5-6.5	0	0
	32-50	18-30	---	4.5-7.8	0	0
	50-80	10-20	---	5.6-8.4	0-15	0
17A:						
Keomah-----	0-11	10-26	---	5.6-7.3	0	0
	11-18	9.0-24	---	5.1-7.3	0	0
	18-33	28-41	---	5.1-6.5	0	0
	33-51	16-29	---	5.6-6.5	0	0
	51-89	8.0-18	---	6.1-7.3	0-15	0
45A:						
Denny-----	0-9	18-24	---	5.6-7.3	0	0
	9-22	9.0-15	---	5.6-6.5	0	0
	22-45	21-29	---	5.6-6.5	0	0
	45-70	4.5-18	---	6.1-7.8	0	0
46A:						
Herrick-----	0-13	18-24	---	5.1-7.3	0	0
	13-39	21-25	---	4.5-6.0	0	0
	39-60	15-25	---	5.6-7.3	0	0
	60-80	12-17	---	5.6-7.8	0-10	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
47A:						
Viriden-----	0-15	23-28	---	5.6-7.3	0	0
	15-74	21-27	---	5.6-7.3	0	0
	74-80	15-20	---	5.6-7.8	0-10	0
50A:						
Viriden-----	0-16	24-30	---	5.6-7.8	0	0
	16-49	21-27	---	5.6-7.8	0	0
	49-60	15-20	---	5.6-8.4	0-25	0
51A:						
Muscataune-----	0-16	16-32	---	6.1-7.3	0	0
	16-22	16-27	---	5.6-7.3	0	0
	22-46	17-31	---	5.6-7.3	0	0
	46-60	9.0-22	---	6.6-7.8	0-15	0
61A:						
Atterberry-----	0-9	11-28	---	6.1-7.3	0	0
	9-17	9.0-24	---	5.6-6.5	0	0
	17-48	16-29	---	5.1-6.0	0	0
	48-60	9.0-23	---	5.6-7.3	0-8	0
68A:						
Sable-----	0-17	26-33	---	5.6-7.3	0	0
	17-23	20-30	---	5.6-7.3	0	0
	23-51	15-23	---	5.6-7.8	0-10	0
	51-60	11-21	---	6.6-8.4	0-15	0
75C:						
Drury-----	0-7	8.0-16	---	5.6-7.8	0	0
	7-43	11-16	---	5.6-7.3	0	0
	43-80	9.0-12	---	6.1-7.8	0-15	0
79B:						
Menfro-----	0-10	10-16	---	5.1-7.3	0	0
	10-62	15-20	---	4.5-7.3	0	0
	62-80	5.0-10	---	5.6-7.8	0-5	0
79C2:						
Menfro-----	0-7	10-16	---	5.1-7.3	0	0
	7-56	15-20	---	4.5-7.3	0	0
	56-80	5.0-10	---	5.6-7.8	0-5	0
79D2:						
Menfro-----	0-8	10-16	---	5.1-7.3	0	0
	8-44	16-22	---	5.1-7.3	0	0
	44-80	5.0-10	---	5.1-7.3	0	0
79D3:						
Menfro-----	0-4	16-20	---	5.1-7.3	0	0
	4-42	16-22	---	5.1-7.3	0	0
	42-80	5.0-10	---	5.1-7.3	0	0
79E2:						
Menfro-----	0-7	10-16	---	5.1-7.3	0	0
	7-59	15-20	---	5.1-7.3	0	0
	59-80	5.0-10	---	5.1-7.3	0	0
79F:						
Menfro-----	0-9	10-16	---	5.1-7.3	0	0
	9-52	15-20	---	4.5-7.3	0	0
	52-80	5.0-10	---	5.6-7.8	0-5	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium	Sodium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate	adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
86B:						
Osco-----	0-14	18-25	---	5.1-7.3	0	0
	14-55	15-23	---	5.1-6.5	0	0
	55-60	12-18	---	5.6-7.8	0-15	0
86C2:						
Osco-----	0-9	18-25	---	5.1-7.3	0	0
	9-34	15-23	---	5.1-6.5	0	0
	34-60	12-18	---	5.1-7.8	0-15	0
112A:						
Cowden-----	0-8	14-22	---	5.6-7.3	0	0
	8-19	---	10-17	4.5-6.0	0	0
	19-50	21-27	---	4.5-7.3	0	0
	50-58	8.0-19	---	5.6-7.8	0	0
	58-80	12-17	---	5.6-7.8	0	0
113A:						
Oconee-----	0-8	12-18	---	5.6-7.8	0	0
	8-16	10-18	---	4.5-7.3	0	0
	16-47	21-27	---	4.5-6.0	0	0
	47-65	12-21	---	5.1-6.5	0	0
	65-80	12-17	---	5.6-7.8	0	0
113B:						
Oconee-----	0-8	12-18	---	5.6-7.8	0	0
	8-16	10-18	---	4.5-7.3	0	0
	16-47	21-27	---	4.5-6.0	0	0
	47-65	12-21	---	5.1-6.5	0	0
	65-80	12-17	---	5.6-7.8	0	0
119C2:						
Elco-----	0-8	14-22	---	5.6-7.3	0	0
	8-31	14-22	---	5.1-7.8	0	0
	31-60	15-27	---	5.1-7.8	0	0
119C3:						
Elco-----	0-5	16-22	---	5.6-7.3	0	0
	5-33	14-22	---	5.1-7.8	0	0
	33-80	14-21	---	5.1-7.8	0	0
119D2:						
Elco-----	0-6	14-22	---	5.6-7.3	0	0
	6-28	14-22	---	5.1-7.8	0	0
	28-60	15-27	---	5.1-7.8	0	0
119D3:						
Elco-----	0-5	16-22	---	5.6-7.3	0	0
	5-33	14-22	---	5.1-7.8	0	0
	33-80	14-21	---	5.1-7.8	0	0
127B:						
Harrison-----	0-10	16-24	---	6.1-7.3	0	0
	10-45	15-23	---	5.1-6.5	0	0
	45-65	12-21	---	5.6-7.3	0	0
	65-80	18-30	---	5.1-7.8	0-20	0
259C2:						
Assumption-----	0-8	18-24	---	5.6-7.3	0	0
	8-24	15-23	---	5.1-7.3	0	0
	24-60	18-28	---	5.1-7.3	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
<b>267A:</b>						
Caseyville-----	0-7	16-24	---	5.6-7.3	0	0
	7-16	10-18	---	5.1-6.5	0	0
	16-62	15-28	---	5.1-6.5	0	0
	62-80	12-20	---	5.6-7.8	0-15	0
<b>267B:</b>						
Caseyville-----	0-7	16-24	---	5.6-7.3	0	0
	7-16	10-18	---	5.1-6.5	0	0
	16-62	15-28	---	5.1-6.5	0	0
	62-80	12-20	---	5.6-7.8	0-15	0
<b>278A:</b>						
Stronghurst-----	0-8	14-22	---	5.1-7.3	0	0
	8-47	17-23	---	5.1-7.3	0	0
	47-60	12-17	---	5.6-7.8	0-15	0
<b>279B:</b>						
Rozetta-----	0-7	10-22	---	5.1-7.3	0	0
	7-11	7.0-17	---	4.5-7.3	0	0
	11-55	16-22	---	4.5-6.0	0	0
	55-60	12-17	---	5.6-7.8	0-15	0
<b>279C2:</b>						
Rozetta-----	0-8	10-22	---	5.1-7.3	0	0
	8-56	16-22	---	4.5-6.0	0	0
	56-80	12-17	---	5.6-7.8	0-15	0
<b>279C3:</b>						
Rozetta-----	0-6	7.0-17	---	5.1-7.3	0	0
	6-33	16-22	---	4.5-6.0	0	0
	33-60	12-17	---	5.6-7.8	0-15	0
<b>279D2:</b>						
Rozetta-----	0-6	10-22	---	5.1-7.3	0	0
	6-49	16-22	---	4.5-6.0	0	0
	49-60	12-17	---	5.6-7.8	0-15	0
<b>279D3:</b>						
Rozetta-----	0-6	7.0-17	---	5.1-7.3	0	0
	6-33	16-22	---	4.5-6.5	0	0
	33-60	12-17	---	5.6-7.8	0-15	0
<b>280B:</b>						
Fayette-----	0-9	15-20	---	5.1-7.3	0	0
	9-39	15-23	---	4.5-6.0	0	0
	39-60	15-20	---	5.1-7.8	0-15	0
<b>280C:</b>						
Fayette-----	0-9	18-25	---	5.1-7.3	0	0
	9-64	15-20	---	4.5-6.0	0	0
	64-80	15-20	---	5.1-7.8	0-15	0
<b>280C2:</b>						
Fayette-----	0-8	18-25	---	5.1-7.3	0	0
	8-64	15-22	---	4.5-6.0	0	0
	64-80	15-20	---	5.1-7.8	0-15	0
<b>280C3:</b>						
Fayette-----	0-8	25-30	---	5.1-7.3	0	0
	8-48	15-22	---	4.5-6.0	0	0
	48-60	15-20	---	5.1-7.8	0-15	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium	Sodium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate	adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
280D:						
Fayette-----	0-13	15-20	---	5.1-7.3	0	0
	13-38	15-20	---	4.5-6.0	0	0
	38-60	15-20	---	5.1-7.8	0-15	0
280D2:						
Fayette-----	0-6	18-25	---	5.1-7.3	0	0
	6-48	15-22	---	4.5-6.0	0	0
	48-60	15-20	---	5.1-7.8	0-15	0
280D3:						
Fayette-----	0-8	25-30	---	5.1-7.3	0	0
	8-36	15-22	---	4.5-6.0	0	0
	36-60	15-20	---	5.1-7.8	0-15	0
280E2:						
Fayette-----	0-4	18-25	---	5.1-7.3	0	0
	4-60	17-27	---	4.5-6.0	0	0
	60-77	15-20	---	5.1-7.8	0-15	0
280F:						
Fayette-----	0-3	18-25	---	5.1-7.3	0	0
	3-10	7.0-17	---	4.5-7.3	0	0
	10-45	15-20	---	4.5-6.0	0	0
	45-60	15-20	---	5.1-7.8	0-15	0
434B:						
Ridgway-----	0-10	10-20	---	5.1-7.3	0	0
	10-30	17-33	---	5.1-7.3	0	0
	30-39	---	12-22	5.0-6.5	0	0
	39-80	2.0-10	---	5.1-7.3	0	0
438B:						
Aviston-----	0-16	15-25	---	5.6-7.3	0	0
	16-67	20-35	---	5.1-7.3	0	0
	67-80	10-20	---	5.6-7.8	0	0
477B:						
Winfield-----	0-9	10-15	---	5.6-7.3	0	0
	9-13	12-17	---	5.6-7.3	0	0
	13-62	13-19	---	4.5-6.5	0	0
	62-80	10-14	---	5.1-7.3	0	0
477B3:						
Winfield-----	0-5	14-17	---	5.6-7.3	0	0
	5-48	18-27	---	4.5-6.5	0	0
	48-80	10-14	---	5.1-7.3	0	0
477C2:						
Winfield-----	0-6	10-15	---	5.6-7.3	0	0
	6-50	13-19	---	4.5-6.5	0	0
	50-80	10-14	---	5.1-7.3	0	0
477C3:						
Winfield-----	0-7	14-17	---	5.6-7.3	0	0
	7-41	16-22	---	4.5-6.5	0	0
	41-80	10-14	---	5.1-6.5	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
477D2:						
Winfield-----	0-6	10-15	---	5.6-7.3	0	0
	6-10	12-17	---	5.6-7.3	0	0
	10-53	17-27	---	4.5-6.5	0	0
	53-80	10-14	---	5.1-6.5	0	0
477D3:						
Winfield-----	0-5	14-17	---	5.6-7.3	0	0
	5-48	13-19	---	4.5-6.5	0	0
	48-80	10-14	---	5.1-7.3	0	0
515B2:						
Bunkum-----	0-7	17-23	---	5.1-7.3	0	0
	7-50	18-24	---	4.5-6.5	0	0
	50-65	12-22	---	5.1-7.3	0	0
	65-80	10-20	---	5.1-7.3	0	0
515C2:						
Bunkum-----	0-7	17-23	---	5.1-7.3	0	0
	7-50	18-24	---	4.5-6.5	0	0
	50-65	12-22	---	5.1-7.3	0	0
	65-85	10-20	---	5.1-7.3	0	0
515C3:						
Bunkum-----	0-8	17-23	---	5.1-7.3	0	0
	8-40	18-24	---	4.5-6.5	0	0
	40-58	12-22	---	5.1-7.3	0	0
	58-80	12-17	---	5.1-7.3	0	0
538B2:						
Emery-----	0-7	17-22	---	5.1-7.3	0	0
	7-37	14-27	---	5.1-6.5	0	0
	37-55	14-23	---	5.1-6.5	0	0
	55-87	13-27	---	6.1-8.4	0-15	0
538C2:						
Emery-----	0-7	17-22	---	5.1-7.3	0	0
	7-37	14-27	---	5.1-6.5	0	0
	37-55	14-23	---	5.1-6.5	0	0
	55-87	13-27	---	6.1-8.4	0-15	0
582B:						
Homen-----	0-9	15-25	---	5.6-7.3	0	0
	9-15	15-22	---	4.5-6.5	0	0
	15-58	18-28	---	4.5-6.0	0	0
	58-80	12-17	---	5.1-6.5	0	0
675B:						
Greenbush-----	0-14	20-25	---	5.1-7.3	0	0
	14-60	25-30	---	4.5-7.3	0	0
	60-80	20-25	---	5.6-7.3	0	0
675C2:						
Greenbush-----	0-6	20-25	---	5.1-7.3	0	0
	6-46	25-30	---	4.5-7.3	0	0
	46-60	20-25	---	5.6-7.3	0	0
701F:						
Menfro-----	0-9	15-23	---	5.1-7.3	0	0
	9-52	19-27	---	4.5-7.3	0	0
	52-80	12-23	---	5.6-7.8	0-5	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
<b>701F:</b>						
Hickory-----	0-4	14-19	---	4.5-7.3	0	0
	4-12	9.0-14	---	4.5-7.3	0	0
	12-46	12-18	---	4.5-6.0	0	0
	46-58	9.0-19	---	5.1-7.3	0	0
	58-80	5.0-15	---	5.6-8.4	0-25	0
<b>802E:</b>						
Orthents-----	0-6	14-20	---	5.6-7.8	0	0
	6-60	14-20	---	5.6-7.8	0	0
<b>833F:</b>						
Menfro-----	0-10	5.0-20	---	4.5-7.3	0	0
	10-62	17-27	---	4.5-6.0	0	0
	62-80	1.0-12	---	5.1-6.5	0	0
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-42	---	4.5-6.0	0	0
<b>833F2:</b>						
Menfro-----	0-7	5.0-20	---	4.5-7.3	0	0
	7-62	17-27	---	4.5-6.0	0	0
	62-80	1.0-12	---	5.1-6.5	0	0
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-42	---	4.5-6.0	0	0
<b>833G:</b>						
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-42	---	4.5-6.0	0	0
Menfro-----	0-10	5.0-20	---	4.5-7.3	0	0
	10-62	17-27	---	4.5-6.0	0	0
	62-80	1.0-12	---	5.1-6.5	0	0
<b>836G:</b>						
Hamburg-----	0-7	4.0-8.0	---	7.4-8.4	1-30	0
	7-60	4.0-8.0	---	7.4-8.4	12-30	0
Lacrescent-----	0-21	15-27	---	6.6-7.8	0-5	0
	21-38	5.0-16	---	6.6-8.4	0-5	0
	38-60	4.0-11	---	7.4-8.4	0-5	0
<b>837G:</b>						
Rock outcrop, limestone.						
Lacrescent-----	0-21	15-27	---	6.6-7.8	0-5	0
	21-38	5.0-16	---	6.6-8.4	0-5	0
	38-60	4.0-11	---	7.4-8.4	0-5	0
<b>838F:</b>						
Fayette-----	0-3	18-25	---	5.1-7.3	0	0
	3-10	7.0-17	---	4.5-7.3	0	0
	10-45	15-20	---	4.5-6.0	0	0
	45-60	15-20	---	5.1-7.8	0-15	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
		exchange capacity	cation- exchange capacity			
	Inches	meq/100 g	meq/100 g	pH	Pct	
<b>838F:</b>						
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-40	---	4.5-6.0	0	0
<b>838F2:</b>						
Fayette-----	0-7	5.0-20	---	4.5-7.3	0	0
	7-62	9.0-24	---	4.5-6.0	0	0
	62-80	1.0-12	---	5.1-7.8	0-15	0
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-42	---	4.5-6.0	0	0
<b>838G:</b>						
Goss-----	0-7	6.0-15	---	4.5-6.5	0	0
	7-11	10-15	---	4.5-6.0	0	0
	11-80	18-42	---	4.5-6.0	0	0
Fayette-----	0-3	18-25	---	5.1-7.3	0	0
	3-10	7.0-17	---	4.5-7.3	0	0
	10-45	15-20	---	4.5-6.0	0	0
	45-60	15-20	---	5.1-7.8	0-15	0
<b>864.</b>						
Pits, quarries						
<b>885A:</b>						
Virden-----	0-15	23-28	---	5.6-7.8	0	0
	15-74	21-27	---	5.6-7.8	0	0
	74-80	15-20	---	5.6-8.4	0-10	0
Fosterburg-----	0-13	20-27	---	6.1-7.8	0	0-5
	13-41	22-30	---	6.1-8.4	0-10	5-15
	41-71	20-28	---	6.1-8.4	0-15	5-10
	71-80	12-20	---	6.6-8.4	0-5	0-10
<b>894A:</b>						
Herrick-----	0-13	18-24	---	5.1-7.3	0	0
	13-39	21-25	---	4.5-6.0	0	0
	39-60	15-25	---	5.6-7.3	0	0
	60-80	12-17	---	5.6-7.8	0-10	0
Biddle-----	0-16	20-27	---	5.6-7.3	0	0
	16-36	22-30	---	5.6-8.4	0-5	5-15
	36-76	20-28	---	6.1-8.4	0-15	5-10
	76-80	12-17	---	6.6-8.4	0-15	0-10
Piasa-----	0-8	11-16	---	5.6-7.8	0	0-5
	8-12	11-16	---	5.6-7.8	0	0-5
	12-48	21-26	---	6.1-9.0	0-10	15-25
	48-80	12-17	---	6.6-8.4	0-30	5-20
<b>897C2:</b>						
Bunkum-----	0-8	17-23	---	5.1-7.3	0	0
	8-40	18-24	---	4.5-6.5	0	0
	40-58	12-22	---	5.1-7.3	0	0
	58-80	12-17	---	5.1-7.3	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium	Sodium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate	adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
<b>897C2:</b>						
Atlas-----	0-9	19-26	---	4.5-7.3	0	0
	9-31	21-29	---	4.5-7.3	0	0
	31-51	18-29	---	4.5-7.8	0	0
	51-80	12-20	---	6.1-7.8	0-5	0
<b>962D2:</b>						
Sylvan-----	0-4	14-20	---	5.6-7.3	0	0
	4-30	19-27	---	5.6-7.3	0	0
	30-80	6.0-18	---	7.4-8.4	10-35	0
Bold-----	0-12	8.0-15	---	7.4-8.4	10-40	0
	12-60	10-15	---	7.4-8.4	10-50	0
<b>962D3:</b>						
Sylvan-----	0-8	17-21	---	5.6-7.3	0	0
	8-31	17-27	---	5.6-7.3	0	0
	31-60	6.0-18	---	7.4-8.4	0-35	0
Bold-----	0-8	6.0-15	---	7.4-8.4	10-40	0
	8-60	10-15	---	7.4-8.4	10-50	0
<b>962E2:</b>						
Sylvan-----	0-6	14-20	---	5.6-7.3	0	0
	6-28	17-27	---	5.6-7.3	0	0
	28-60	6.0-18	---	7.4-8.4	0-35	0
Bold-----	0-8	6.0-15	---	7.4-8.4	10-40	0
	8-60	9.0-15	---	7.4-8.4	10-50	0
<b>962F:</b>						
Sylvan-----	0-10	14-20	---	5.6-7.3	0	0
	10-27	15-22	---	5.6-7.3	0	0
	27-80	6.0-18	---	7.4-8.4	0-35	0
Bold-----	0-7	8.0-15	---	7.4-8.4	10-40	0
	7-60	7.0-12	---	7.4-8.4	10-50	0
<b>962G:</b>						
Sylvan-----	0-10	14-20	---	5.6-7.3	0	0
	10-27	15-22	---	5.6-7.3	0	0
	27-80	6.0-18	---	7.4-8.4	0-35	0
Bold-----	0-7	8.0-15	---	7.4-8.4	10-40	0
	7-60	7.0-12	---	7.4-8.4	10-50	0
<b>993A:</b>						
Cowden-----	0-8	14-22	---	5.6-7.3	0	0
	8-19	---	9.0-18	4.5-6.0	0	0
	19-50	21-27	---	4.5-7.3	0	0
	50-58	8.0-19	---	5.6-7.8	0	0
	58-80	12-17	---	5.6-7.8	0	0
Piasa-----	0-8	11-16	---	5.6-7.8	0	0-5
	8-12	11-16	---	5.6-7.8	0	0-5
	12-48	21-26	---	6.1-9.0	0-10	15-25
	48-80	12-17	---	6.6-8.4	0-30	5-20
<b>3070A:</b>						
Beaucoup-----	0-16	26-33	---	5.6-7.8	0	0
	16-64	16-25	---	5.6-7.8	0-5	0
	64-80	9.0-20	---	6.1-8.4	0-15	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
3070L:						
Beaucoup-----	0-16	26-33	---	5.6-7.8	0	0
	16-64	16-25	---	5.6-7.8	0-5	0
	64-80	6.0-20	---	6.1-8.4	0-15	0
3071L:						
Darwin-----	0-16	32-37	---	6.1-7.8	0	0
	16-62	27-40	---	6.1-7.8	0	0
	62-80	18-34	---	6.6-8.4	0-15	0
3074A:						
Radford-----	0-12	15-24	---	5.6-7.8	0	0
	12-33	11-20	---	6.1-7.8	0	0
	33-80	14-23	---	6.1-7.8	0-20	0
3077A:						
Huntsville-----	0-43	17-24	---	5.6-7.8	0	0
	43-60	11-17	---	5.6-7.8	0	0
3107A:						
Sawmill-----	0-10	23-36	---	6.1-7.8	0	0
	10-32	23-36	---	6.1-7.8	0	0
	32-58	18-34	---	6.1-7.8	0	0
	58-65	18-34	---	6.1-7.8	0-5	0
3288A:						
Petrolia-----	0-8	20-25	---	5.6-7.8	0	0
	8-55	20-27	---	6.1-7.3	0	0
	55-80	10-20	---	5.1-7.8	0	0
3333A:						
Wakeland-----	0-8	4.0-12	---	5.6-7.3	0	0
	8-68	8.0-15	---	5.6-7.8	0	0
	68-80	4.0-12	---	5.6-7.8	0	0
3336A:						
Wilbur-----	0-7	4.0-16	---	5.6-7.3	0	0
	7-41	4.0-15	---	5.6-7.8	0	0
	41-65	4.0-16	---	5.6-7.8	0	0
3451A:						
Lawson-----	0-14	11-28	---	6.1-7.8	0	0
	14-33	11-29	---	6.1-7.8	0	0
	33-80	11-23	---	6.1-7.8	0	0
3475A:						
Elsah-----	0-6	8.0-16	---	5.6-7.3	0	0
	6-12	6.0-15	---	5.6-7.8	0	0
	12-60	3.0-12	---	6.6-7.8	0	0
3634A:						
Blyton-----	0-10	4.0-12	---	5.6-7.3	0	0
	10-80	4.0-12	---	5.6-7.8	0	0
3641L:						
Quiver-----	0-9	22-29	---	5.6-7.8	0	0
	9-65	12-23	---	6.6-8.4	0	0
7037B:						
Worthen-----	0-30	15-21	---	5.6-7.3	0	0
	30-63	11-14	---	5.6-7.8	0	0
	63-80	9.0-14	---	6.1-8.4	0-25	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium	Sodium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate	adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
7075B:						
Drury-----	0-7	8.0-16	---	5.6-7.8	0	0
	7-43	11-15	---	5.6-7.3	0	0
	43-80	9.0-12	---	6.1-7.8	0-15	0
7081A:						
Littleton-----	0-15	15-25	---	5.6-7.8	0	0
	15-60	15-25	---	5.6-7.8	0	0
	60-80	11-18	---	5.6-7.8	0	0
7242A:						
Kendall-----	0-9	14-20	---	5.1-7.3	0	0
	9-14	11-16	---	5.1-7.3	0	0
	14-54	16-22	---	4.5-7.3	0	0
	54-60	6.0-16	---	5.6-8.4	0-15	0
7338B2:						
Hurst-----	0-3	22-37	---	6.6-7.3	0	0
	3-41	30-62	---	7.4-7.8	0-5	0
	41-80	30-62	---	7.8-8.4	0-5	0
7432A:						
Geff-----	0-5	13-22	---	5.6-7.3	0	0
	5-12	14-24	---	4.5-7.3	0	0
	12-33	19-27	---	4.5-6.0	0	0
	33-62	12-24	---	4.5-7.3	0	0
	62-80	1.0-3.0	---	5.1-7.3	0	0
7434B:						
Ridgway-----	0-8	10-20	---	5.1-7.3	0	0
	8-27	18-25	---	4.5-7.3	0	0
	27-52	8.0-22	---	4.5-6.5	0	0
	52-80	2.0-10	---	5.6-7.3	0	0
7457A:						
Booker-----	0-29	32-66	---	6.1-7.3	0	0
	29-60	30-62	---	7.4-8.4	0-5	0
	60-80	30-62	---	7.4-8.4	0-15	0
8028A:						
Jules-----	0-8	8.0-16	---	7.4-8.4	15-35	0
	8-60	5.0-12	---	7.4-8.4	15-40	0
8070A:						
Beaucoup-----	0-15	26-33	---	5.6-7.8	0	0
	15-48	16-25	---	5.6-7.8	0	0
	48-60	9.0-20	---	6.1-7.8	0-5	0
	60-80	6.0-20	---	6.1-8.4	0-25	0
8071A:						
Darwin-----	0-12	32-37	---	6.1-7.8	0	0
	12-40	27-40	---	6.1-7.8	0	0
	40-80	18-34	---	6.6-8.4	0-15	0
8180A:						
Dupo-----	0-7	8.0-15	---	5.6-7.8	0	0
	7-36	6.0-12	---	5.6-7.8	0	0
	36-85	21-29	---	5.6-7.8	0-5	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	
<b>8248A:</b>						
McFain-----	0-15	25-35	---	6.1-7.8	0	0
	15-66	6.0-17	---	6.6-8.4	0-25	0
	66-80	9.0-18	---	7.4-8.4	10-25	0
<b>8284A:</b>						
Tice-----	0-14	20-27	---	6.1-7.8	0	0
	14-80	16-23	---	5.1-7.3	0	0
<b>9278A:</b>						
Stronghurst-----	0-7	14-22	---	5.1-7.3	0	0
	7-11	13-18	---	5.1-7.3	0	0
	11-47	17-23	---	5.1-7.3	0	0
	47-60	12-17	---	5.6-7.8	0-15	0
<b>9279B:</b>						
Rozetta-----	0-9	10-22	---	5.1-7.3	0	0
	9-66	16-22	---	4.5-6.0	0	0
	66-76	12-17	---	5.6-7.8	0-15	0
<b>9279C2:</b>						
Rozetta-----	0-7	10-22	---	5.1-7.3	0	0
	7-66	16-22	---	4.5-6.0	0	0
	66-70	12-17	---	5.6-7.8	0-15	0
<b>9279D3:</b>						
Rozetta-----	0-6	7.0-17	---	5.1-7.3	0	0
	6-33	16-22	---	4.5-6.5	0	0
	33-60	12-17	---	5.6-7.8	0-15	0
<b>9962D3:</b>						
Sylvan-----	0-8	17-21	---	5.6-7.3	0	0
	8-31	17-27	---	5.6-7.3	0	0
	31-60	8.0-21	---	7.4-8.4	0-35	0
<b>Bold-----</b>	0-8	6.0-15	---	7.4-8.4	10-40	0
	8-60	9.0-12	---	7.4-8.4	10-50	0

Table 22.--Water Features

(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	Ponding			Flooding		Water table			
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
8D2: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8D3: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8F: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8F2: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
8G: Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
16A: Rushville-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
17A: Keomah-----	C	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
45A: Denny-----	D	0.0-1.0	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
46A: Herrick-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
47A: Virden-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
50A: Virden-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
51A: Muscatune-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
61A: Atterberry-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
68A: Sable-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
75C: Drury-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
79B: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
79C2: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
79D2: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
79D3: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Water table			Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	
		Ft						Ft	Ft	
79E2: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
79F: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
86B: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
86C2: Osco-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
112A: Cowden-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
113A: Oconee-----	C	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
113B: Oconee-----	C	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
119C2: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
119C3: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
119D2: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
119D3: Elco-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
127B: Harrison-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	3.5-5.0	Perched
259C2: Assumption-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	2.8-4.5	Perched
267A: Caseyville-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
267B: Caseyville-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
278A: Stronghurst-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
279B: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279C2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279C3: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279D2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
279D3: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Water table			Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	
		Ft						Ft	Ft	
280B: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280C: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280C2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280C3: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280D: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280D2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280D3: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280E2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
280F: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
434B: Ridgway-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
438B: Aviston-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477B: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477B3: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477C2: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477C3: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477D2: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
477D3: Winfield-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	>6.0	Apparent
515B2: Bunkum-----	C	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
515C2: Bunkum-----	C	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
515C3: Bunkum-----	C	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
538B2: Emery-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Water table			Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	
		Ft						Ft	Ft	
538C2: Emery-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
582B: Homen-----	B	---	---	---	---	None	Feb-Apr	2.0-3.5	3.5-6.0	Perched
675B: Greenbush-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
675C2: Greenbush-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
701F: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Hickory-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
802E: Orthents-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
833F: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
833F2: Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
833G: Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Menfro-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
836G: Hamburg-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Lacrescent-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
837G: Rock outcrop, limestone.										
Lacrescent-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
838F: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
838F2: Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
838G: Goss-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Fayette-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Water table			Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	
		Ft						Ft	Ft	
864. Pits, quarries										
885A: Virden-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
Fosterburg-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
894A: Herrick-----	B	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
Biddle-----	C	---	---	---	---	None	Jan-May	1.0-2.0	2.5-4.0	Perched
Piassa-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	2.5-4.0	Perched
897C2: Bunkum-----	C	---	---	---	---	None	Jan-May	1.0-2.0	>6.0	Apparent
Atlas-----	D	---	---	---	---	None	Jan-May	0.5-2.0	1.2-2.5	Perched
962D2: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
962D3: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
962E2: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
962F: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
962G: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
993A: Cowden-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
Piassa-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	2.5-4.0	Perched
3070A: Beaucoup-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3070L: Beaucoup-----	B/D	0.0-0.5	Long	Frequent	Long	Frequent	Nov-Jun	0.0-1.0	>6.0	Apparent
3071L: Darwin-----	D	0.0-1.0	Long	Frequent	Long	Frequent	Nov-Jun	0.0-1.0	>6.0	Apparent
3074A: Radford-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Water table			Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency	Months	Upper limit	Lower limit	
		Ft						Ft	Ft	
3077A: Huntsville-----	B	---	---	---	Brief	Frequent	Feb-Apr	4.0-6.0	>6.0	Apparent
3107A: Sawmill-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3288A: Petrolia-----	C/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent
3333A: Wakeland-----	C	---	---	---	Brief	Frequent	Jan-May	0.5-2.0	>6.0	Apparent
3336A: Wilbur-----	B	---	---	---	Brief	Frequent	Jan-Apr	1.5-2.0	>6.0	Apparent
3451A: Lawson-----	B	---	---	---	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent
3475A: Elsah-----	B	---	---	---	Brief	Frequent	Jan-Dec	>6.0	>6.0	---
3634A: Blyton-----	B	---	---	---	Brief	Frequent	Feb-Apr	2.0-3.5	>6.0	Apparent
3641L: Quiver-----	B/D	0.0-1.0	Long	Frequent	Long	Frequent	Jan-Dec	0.0-1.0	>6.0	Apparent
7037B: Worthen-----	B	---	---	---	---	Rare	Jan-Dec	>6.0	>6.0	---
7075B: Drury-----	B	---	---	---	---	Rare	Jan-Dec	>6.0	>6.0	---
7081A: Littleton-----	B	---	---	---	---	Rare	Jan-May	1.0-2.0	>6.0	Apparent
7242A: Kendall-----	B	---	---	---	---	Rare	Jan-May	0.5-2.0	>6.0	Apparent
7338B2: Hurst-----	D	---	---	---	---	Rare	Jan-May	0.5-2.0	1.5-2.5	Perched
7432A: Geff-----	C	---	---	---	---	Rare	Jan-May	1.0-2.0	>6.0	Apparent
7434B: Ridgway-----	B	---	---	---	---	Rare	Jan-Dec	>6.0	>6.0	---
7457A: Booker-----	D	0.0-0.5	Brief	Frequent	---	Rare	Jan-May	0.0-1.0	>6.0	Apparent
8028A: Jules-----	B	---	---	---	Brief	Occasional	Feb-Apr	4.0-6.0	>6.0	Apparent
8070A: Beaucoup-----	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8071A: Darwin-----	D	0.0-1.0	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8180A: Dupo-----	C	---	---	---	Brief	Occasional	Jan-May	1.0-2.0	1.5-3.5	Perched

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		Kind of water table
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	
		Ft						Ft	Ft	
8248A: McFain-----	C	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
8284A: Tice-----	B	---	---	---	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
9278A: Stronghurst-----	B	---	---	---	---	None	Jan-May	0.5-2.0	>6.0	Apparent
9279B: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
9279C2: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
9279D3: Rozetta-----	B	---	---	---	---	None	Feb-Apr	4.0-6.0	>6.0	Apparent
9962D3: Sylvan-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---
Bold-----	B	---	---	---	---	None	Jan-Dec	>6.0	>6.0	---

Table 23.--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	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
8D2: Hickory-----	Moderate	Moderate	Moderate
8D3: Hickory-----	Moderate	Moderate	Moderate
8F: Hickory-----	Moderate	Moderate	Moderate
8F2: Hickory-----	Moderate	Moderate	Moderate
8G: Hickory-----	Moderate	Moderate	Moderate
16A: Rushville-----	High	High	Moderate
17A: Keomah-----	High	High	Moderate
45A: Denny-----	High	High	Low
46A: Herrick-----	High	High	Moderate
47A: Virden-----	High	High	Low
50A: Virden-----	High	High	Low
51A: Muscatune-----	High	High	Moderate
61A: Atterberry-----	High	High	Moderate
68A: Sable-----	High	High	Low
75C: Drury-----	High	Low	Low
79B: Menfro-----	High	Moderate	Moderate
79C2: Menfro-----	High	Moderate	Moderate
79D2: Menfro-----	High	Moderate	Moderate
79D3: Menfro-----	High	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
79E2: Menfro-----	High	Moderate	Moderate
79F: Menfro-----	High	Moderate	Moderate
86B: Osco-----	High	Moderate	Moderate
86C2: Osco-----	High	Moderate	Moderate
112A: Cowden-----	High	High	Moderate
113A: Oconee-----	High	High	Moderate
113B: Oconee-----	High	High	Moderate
119C2: Elco-----	High	High	Low
119C3: Elco-----	High	High	Low
119D2: Elco-----	High	High	Low
119D3: Elco-----	High	High	Low
127B: Harrison-----	High	High	Moderate
259C2: Assumption-----	High	High	Low
267A: Caseyville-----	High	High	Moderate
267B: Caseyville-----	High	High	Moderate
278A: Stronghurst-----	High	High	Low
279B: Rozetta-----	High	Moderate	Moderate
279C2: Rozetta-----	High	Moderate	Moderate
279C3: Rozetta-----	High	Moderate	Moderate
279D2: Rozetta-----	High	Moderate	Moderate
279D3: Rozetta-----	High	Moderate	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
280B: Fayette-----	High	Moderate	Moderate
280C: Fayette-----	High	Moderate	Moderate
280C2: Fayette-----	High	Moderate	Moderate
280C3: Fayette-----	High	Moderate	Moderate
280D: Fayette-----	High	Moderate	Moderate
280D2: Fayette-----	High	Moderate	Moderate
280D3: Fayette-----	High	Moderate	Moderate
280E2: Fayette-----	High	Moderate	Moderate
280F: Fayette-----	High	Moderate	Moderate
434B: Ridgway-----	High	Moderate	Moderate
438B: Aviston-----	High	High	Moderate
477B: Winfield-----	High	High	Moderate
477B3: Winfield-----	High	High	Moderate
477C2: Winfield-----	High	High	Moderate
477C3: Winfield-----	High	High	Moderate
477D2: Winfield-----	High	High	Moderate
477D3: Winfield-----	High	High	Moderate
515B2: Bunkum-----	High	High	Moderate
515C2: Bunkum-----	High	High	Moderate
515C3: Bunkum-----	High	High	Moderate
538B2: Emery-----	High	High	Moderate

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
538C2: Emery-----	High	High	Moderate
582B: Homen-----	High	High	Moderate
675B: Greenbush-----	High	Moderate	Low
675C2: Greenbush-----	High	Moderate	Low
701F: Menfro-----	High	Moderate	Moderate
Hickory-----	Moderate	Moderate	Moderate
802E: Orthents-----	Moderate	Moderate	Low
833F: Menfro-----	High	Moderate	Moderate
Goss-----	Moderate	High	Moderate
833F2: Menfro-----	High	Moderate	Moderate
Goss-----	Moderate	High	Moderate
833G: Goss-----	Moderate	High	Moderate
Menfro-----	High	Moderate	Moderate
836G: Hamburg-----	High	Low	Low
Lacrescent-----	Moderate	Low	Low
837G: Rock outcrop, limestone.			
Lacrescent-----	Moderate	Low	Low
838F: Fayette-----	High	Moderate	Moderate
Goss-----	Moderate	High	Moderate
838F2: Fayette-----	High	Moderate	Moderate
Goss-----	Moderate	High	Moderate
838G: Goss-----	Moderate	High	Moderate
Fayette-----	High	Moderate	Moderate
864. Pits, quarries			

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
885A: Virden-----	High	High	Low
Fosterburg-----	High	High	Low
894A: Herrick-----	High	High	Moderate
Biddle-----	High	High	Low
Piasa-----	High	High	Low
897C2: Bunkum-----	High	High	Moderate
Atlas-----	High	High	Moderate
962D2: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low
962D3: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low
962E2: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low
962F: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low
962G: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low
993A: Cowden-----	High	High	Moderate
Piasa-----	High	High	Low
3070A: Beaucoup-----	High	High	Low
3070L: Beaucoup-----	High	High	Low
3071L: Darwin-----	High	High	Low
3074A: Radford-----	High	High	Low
3077A: Huntsville-----	High	Low	Low

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
3107A: Sawmill-----	High	High	Low
3288A: Petrolia-----	High	High	Low
3333A: Wakeland-----	High	High	Low
3336A: Wilbur-----	High	Moderate	Low
3451A: Lawson-----	High	High	Low
3475A: Elsah-----	Moderate	Low	Low
3634A: Blyton-----	High	Moderate	Low
3641L: Quiver-----	High	High	Low
7037B: Worthen-----	High	Low	Low
7075B: Drury-----	High	Low	Low
7081A: Littleton-----	High	High	Low
7242A: Kendall-----	High	High	Moderate
7338B2: Hurst-----	High	High	Low
7432A: Geff-----	High	High	Moderate
7434B: Ridgway-----	High	Moderate	Moderate
7457A: Booker-----	High	High	Low
8028A: Jules-----	High	Low	Low
8070A: Beaucoup-----	High	High	Low
8071A: Darwin-----	High	High	Low
8180A: Dupo-----	High	High	Low
8248A: McFain-----	High	High	Low

Table 23.--Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
8284A: Tice-----	High	High	Low
9278A: Stronghurst-----	High	High	Low
9279B: Rozetta-----	High	Moderate	Moderate
9279C2: Rozetta-----	High	Moderate	Moderate
9279D3: Rozetta-----	High	Moderate	Moderate
9962D3: Sylvan-----	High	Moderate	Low
Bold-----	High	Low	Low

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